Volume 12

Pages 1912 - 2100

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

Before The Honorable Vince Chhabria, Judge

EDWARD HARDEMAN,	)	
	)	
Plaintiff,	)	
	)	
VS.	)	**NO. C 16-00525 VC**
	)	
MONSANTO COMPANY,	)	
	)	
Defendant.	)	
	)	

San Francisco, California
Tuesday, March 12, 2019

TRANSCRIPT OF PROCEEDINGS

APPEARANCES:

For Plaintiff:

ANDRUS WAGSTAFF PC
7171 W. Alaska Drive
Lakewood, Colorado 80226
BY: AIMEE H. WAGSTAFF, ATTORNEY AT LAW
DAVID J. WOOL, ATTORNEY AT LAW

MOORE LAW GROUP
1473 South 4th Street
Louisville, Kentucky 40208
BY: JENNIFER MOORE, ATTORNEY AT LAW

(APPEARANCES CONTINUED ON FOLLOWING PAGE)

REPORTED BY: Marla F. Knox, RPR, CRR
Jo Ann Bryce, CSR No. 3321, RMR, CRR, FCRR
Official Reporters

APPEARANCES: (CONTINUED)

For Defendant:

WILKINSON WALSH ESKOVITZ LLP
2001 M Street, NW - 10th Floor
Washington, D.C. 20036
BY: BRIAN L. STEKLOFF, ATTORNEY AT LAW
RAKESH N. KILARU, ATTORNEY AT LAW
TAMARRA MATTHEWS JOHNSON, ATTORNEY AT LAW
JULIE RUBENSTEIN, ATTORNEY AT LAW
CALI COPE-KASTEN, ATTORNEY AT LAW

I N D E X

Tuesday, March 12, 2019 - Volume 12

Tuesday - March 12, 2019 **8:10 a.m.**

P R O C E E D I N G S

---000---

(Proceedings were heard out of presence of the jury:)

THE COURT: Okay. It is ten after 8:00. I'm not sure what is going on with the Plaintiffs, but I was here at 7:00 a.m. this morning to review the closing slides. I received an e-mail from the Plaintiffs with their slides, but it was encrypted so I couldn't open it. I finally got the slides about 15 minutes ago. It appears to be an incomplete draft. There are a number of notations in the slides that say things like "AW to fill in text."

MS. WAGSTAFF: Well --

THE COURT: So I don't -- I'm not really sure what to do with that. I'm trying to review the slides. I have reviewed Monsanto's slides. I'm trying to review the Plaintiff's slides, but it seems to be an incomplete version or an incomplete draft that was sent to me 15 minutes ago. So I don't really know what to do.

Do you have a complete version with you?

MS. WAGSTAFF: Your Honor, I do have a complete version. And it was actually sent to you at 7:00. And the "AW to fill in text," that's me. Amy Wagstaff.

THE COURT: It was sent to me at 7:00, but it was encrypted so I couldn't open it.

MS. WAGSTAFF: Okay. I didn't know that because that is the sort of format that I have had, and you are outside the people I e-mail with. So I was filling it in. It says -- if you look at the slide, it says Jury Instruction, and then AW fill in text because we don't have a jury instruction yet. So that's what the notations were for.

THE COURT: Okay.

MS. WAGSTAFF: Do you want this hard copy? These have Jennifer's notes on it.

Right now this is my only hard copy, so can I have it back when you are done reviewing it, please?

THE COURT: Well, if it is your only hard copy -- I mean, I'm not sure we are going to have time to go through this now.

The other problem is that you were ten minutes late to court. So to the extent that this wastes the jury's time today because of all the snafus that occurred this morning, it is coming out of your time for this trial. It is coming out of your time limits.

So we can do as much as we can -- we will do as much as we can until 8:30, and then we will bring in the jury; and we will resume with Dr. Arber.

So let me start with Monsanto's slides because I have a couple of concerns about Monsanto's slides.

MR. STEKLOFF: Yes, Your Honor.

THE COURT: In particular Slide Number 8 and Slide Number 71.

MR. STEKLOFF: Okay. Number 8 -- is this with respect to Dr. Ye?

THE COURT: Yeah. And my concern about that slide and about the -- the argument that you seem prepared to present with that slide is that you are discussing Dr. Ye as if he is an expert witness in the case, and he is not. And you -- I don't think it is appropriate -- I think it is relevant that Dr. Ye doesn't ask about Roundup; didn't know about Roundup. I think that's relevant, and so I didn't -- I didn't have concerns with a prior slide that you had about the doctors, but this is just too much presenting Dr. Ye as if he is one of the experts in this case.

So I don't think that slide is appropriate. I'm not going to allow you to use that slide. And you can't -- you have to really limit what you argue about Dr. Ye, you know.

And that sort of brings me to Slide Number 71.

MR. STEKLOFF: Okay.

THE COURT: Where you say -- I actually don't have it in front of me; but as I recall, you say something like, You have to -- to find for the Plaintiff, you have to believe that the doctors were wrong.

MR. STEKLOFF: I'm happy to delete that bullet if that's the issue, Your Honor.

THE COURT: Yeah. And so any argument that you make that sort of attempts to put Dr. Ye in the group of -- in the same group as the experts, I think, is not appropriate.

MR. STEKLOFF: Understood, Your Honor. And I will delete that bullet and delete Slide Number 8.

THE COURT: Okay.

MR. STEKLOFF: I think it was 8.

THE COURT: I think it was 8. The one with all his qualifications and all that stuff.

MR. STEKLOFF: Yes. I showed that in opening as well, which is not an argument that I should be able to show it now. Just so the Plaintiffs know, it is the same slide. And I will delete it from the closing dec.

THE COURT: Now, from the Plaintiffs I issued an order early this morning about the jury instructions, and I just -- an e-mail response was sent to Kristen about that, but I just want to get it for the record.

So I issued that order. I gave you the choice of the two instructions. You object to either instruction, but you prefer the one that I drafted for you rather than the -- the standard model CACI 430?

MS. MOORE: Yes, Your Honor. I apologize for being late this morning. We were trying to respond to that. There is a lot of moving parts. That is the first time we have been late in three weeks, so.

THE COURT: Okay.

MS. MOORE: Yes, and I apologize. I tried to get it quickly, so that's why it was emailed.

THE COURT: That's fine.

MS. MOORE: If you would like me to file something on the record, I can do that.

THE COURT: Now, it's fine. It's on the record now so that's fine.

MS. MOORE: We would prefer that, with the understanding that you are adding in that last sentence from 430 into the instruction. I guess that will go at the bottom of the first paragraph?

THE COURT: No. I think it will go before the but-for sentence of that paragraph.

MS. MOORE: Yes, thank you, Your Honor.

THE COURT: Okay. So that's the instruction -- that's the causation instruction.

Anything further from Monsanto on that?

MR. KILARU: No, your Honor. Just one question for clarification. I understand the verdict form to be the last version from -- I think it was around the 13th, we talked about. That is the version we are working with?

THE COURT: I think that's right. Should we take a second to look at it just to make sure?

MR. KILARU: I think we sort of had agreed that's what

the verdict form would be on the 13th since there wasn't a two-question issue anymore at that point, but we just want to make sure we have the right --

THE COURT: So the one we have -- I think it is from February 12th. Did Mr. Hardeman --

MR. KILARU: Yes, that's right.

THE COURT: Did Mr. Hardeman prove by a preponderance of the evidence that his exposure to Roundup was a substantial factor in causing his non-Hodgkin's lymphoma?

MR. KILARU: That's how I remember that as well.

MS. MOORE: Yes, Your Honor.

THE COURT: Okay. So that's the verdict form.

MS. MOORE: Thank you.

THE COURT: We will file that -- we will file the final verdict form along with the final jury instructions later this morning.

So now, I started to go through these slides, and I can at least offer some guidance -- some thoughts on the slides that I did review.

The first one is the picture of Mr. Hardeman and his wife. That has to come out of the presentation. I don't need to hear further argument about that.

Reviewing these --

MS. WAGSTAFF: Can I just understand the rationale for that?

THE COURT: It is not relevant to Phase One.

MS. WAGSTAFF: The picture of Mr. Hardeman is not relevant --

THE COURT: I said I don't need to hear further argument on that.

MS. WAGSTAFF: Okay.

THE COURT: Okay. Number 14.

MS. WAGSTAFF: Is that the one with the pictures?

THE COURT: Oh, yes. Let's see. Yeah, I think -- okay. The one that says, No employee came live to defend Monsanto. And then there is a later slide, Number 18.

MS. WAGSTAFF: Yeah, the way that it works is the one you are looking at first is a summary page, and then I walk through each one if you look at it.

THE COURT: Okay. Then it says -- Slide 18 says, Not one person from Monsanto came live to defend Roundup, not one underlined. And what this -- what these two slides have done is cause me to reconsider my conclusion from the other day that it is appropriate for you to reference that in closing argument. I think these slides are going overboard on that question. That -- I think that kind of slide is not appropriate, given that we are in Phase One and the people who needed to come and defend Monsanto were the expert witnesses, not necessarily the Monsanto employees. So I have -- I'm -- I have reconsidered my ruling, and I'm not permitting you to

argue or reference the fact that Monsanto's employees did not show up live, pursuant to Rule 401 and 403.

Let's see. Then -- the only other one that I got to that sort of caught my eye was Slide 29, and then -- this phrase appears on a number of subsequent slides. The dose makes the poison.

There is this quote from Dr. Ritz, The dose makes the poison. And I remember you used that in opening, and I couldn't remember for sure whether she actually said that in trial.

MS. WAGSTAFF: She did.

THE COURT: I think she did, but it was in the context of discussing cigarettes. And so I just -- I wasn't sure how -- you know, I haven't formulated any concrete thoughts on this, but it just caught my eye; and I wasn't sure how relevant her comment was, The dose makes the poison, to Roundup. So I wanted to hear from you a little more on that.

MS. WAGSTAFF: Sure. So I think that one of our themes throughout this litigation -- you have heard it at trial -- is that dose matters, right. One of our themes is dose response. That is no surprise.

And when she was describing sort of dose, one of her catch phrases was Dose makes the poison. And I think that that phrase is in there with respect to whether it was cigarettes or whether it was Roundup.

THE COURT: I think it was only with respect to cigarettes that she made the statement but, you know --

MS. WAGSTAFF: It was an analogy to say that the more you get, it is poison. Dose makes the poison. And that is our -- one of our overarching themes of our case is that the dose matters.

THE COURT: Yeah, I get the point that you are -- you know, obviously you can argue that dose matters, of course. But I was just struggling with, you know, how that sentence came in and whether it is applicable to Roundup. I think it is probably okay.

Does Monsanto have any comments on that?

MR. STEKLOFF: Yes, Your Honor.

My recollection is the same as yours with respect to Dr. Ritz, and I don't think that she said specific to the epidemiology, for example, about Roundup; that the dose makes the poison. I'm certain Dr. Weisenburger -- who is the main person who talked about Mr. Hardeman and his dose and how that increased his risk -- he did not say the dose makes the poison.

So I have no problem with Ms. Wagstaff arguing dose response and what Dr. Weisenburger said about higher doses, but I think that that is -- under 403, that is imflammatory and unnecessary. I'm not saying the phrase wasn't used at one point by Dr. Ritz, but I don't know --

THE COURT: But Dr. Ritz did testify that there is a

dose response.

MR. STEKLOFF: Yes.

THE COURT: And she testified that in explaining the concept of dose response, I think what it would be fair to say probably is that in explaining the concept of dose response, she said the dose makes the poison.

MR. STEKLOFF: I think that's fair. I mean, she used a lot of analogies. I think smoking came out of her mouth 15 times.

MS. WAGSTAFF: As is it did with your experts as well.

MR. STEKLOFF: So I think that --

THE COURT: Okay. I think that's allowed -- that is permissible.

So that's as far as I got. I'm happy to try to flip through it for a few more minutes, but why don't I -- why don't I give you this back since it is your only copy.

MS. WAGSTAFF: I'm having another copy brought to me, but that is the only one in the actual room. So if you want to keep it, and I can have the jury instructions while you are doing something else.

THE COURT: Why don't you go ahead and do that, and I will continue to review this. And I guess at a break -- probably after Dr. Arber is done testifying -- we can continue the discussion. And as I said, to the extent the discussion eats into the jury's time, it is going to eat into the

Plaintiff's time for the trial.

I will be back in five minutes, and we will call the jury in. Did you have something else?

MR. KILARU: Very quickly, Your Honor. Is it okay if we file just a short written set of reasons on the DV motions as opposed to doing them now? We can get that on file today.

THE COURT: Sure. It's fine with me, as long as it's fine for your --

MR. KILARU: I think it should be fine as long as we file it and get a ruling on it. We will do that as soon as we can. I just want to make sure we have those on the record.

THE COURT: Great. I appreciate that.

MS. MOORE: And then, Your Honor, would we -- we would need to file a response today then?

THE COURT: My guess is that that's not going to be necessary.

MS. MOORE: Okay. I know. Thank you, Your Honor.

THE CLERK: Ms. Moore, you had an objection to Exhibit 1023. Do you want to take that up with me or is that something you wanted to put on the record?

MS. MOORE: Thank you, Ms. Melen.

Your Honor, our objection to 1023 -- Defendant's labeled all of Mr. Hardeman's medical records, and then they put page numbers on each one of them. They have moved to admit the exhibits to Dr. Ye and Dr. Turk's deposition that correspond

with those deposition exhibits.

I went back and looked at those. I didn't have any objection because that was part of the designations, but what they have done instead of making an exhibit for each one of those deposition exhibits, they have then taken it out of the compilation of the medical records, so it just looks piecemeal. And I asked them -- we had this conversation after court yesterday -- if they can just mark those as separate exhibits. I think that's what they are. That's how they came into evidence was individual exhibits to the depositions.

THE COURT: Does it really matter?

MS. MOORE: It --

THE COURT: I mean, I'm sort of interested in doing things efficiently at this point.

MS. MOORE: Well -- and I understand. I appreciate that, Your Honor.

My concern is that the jury is going to go back there, and they will have 1023 at such and such page, at such and such page. It goes 940. It goes 1240. And I just always get paranoid the jury is going to think Why don't I have the rest of it? What are they keeping it from me? And that is why I would rather have it, just like they came into evidence, as individual exhibits.

MS. RUBENSTEIN: So we have been calling the full set of medical records this exhibit number the entire trial. It

was not until yesterday that the Plaintiff's objected to this. So the jury has heard us refer to the medical exhibits -- the medical records as Trial Exhibit 1023. We put them in our opening slides that way. We have them in our closing slides that way.

What I think Ms. Melen proposed yesterday -- and what I went ahead and did last night -- is I tabbed them out separately so it will not appear to the jury if they look at these binders, that it is one whole exhibit. They are tabbed separately, but it says Trial Exhibit 1023-1, -2, -3. I think this probably ameliorates Ms. Moore's concern, and then we don't have to change our Trial Exhibit number.

THE COURT: That's fine.

MS. MOORE: Thank you, Your Honor.

THE COURT: Okay. We will be back in a couple of minutes.

THE CLERK: Court is in recess.

(Recess taken at 8:28 a.m.)

(Proceedings resumed at 8:33 a.m.)

(Proceedings were heard out of presence of the jury:)

THE COURT: Bring in the jury.

(Proceedings were heard in the presence of the jury:)

THE COURT: Good morning, everyone.

You can resume.

MR. KILARU: Thank you, Your Honor.

DANIEL ARBER,

called as a witness for the Defendant, having been previously duly sworn, testified further as follows:

DIRECT EXAMINATION (resumed)

BY MR. KILARU

Q. Good morning, Doctor.

A. Good morning.

MR. KILARU: Ms. Melen, may I have the ELMO, please?

BY MR. KILARU

Q. All right, Dr. Arber. Just to pick up with where we left off yesterday, I believe, where we left off, we were talking about this slide and Dr. Weisenburger's methodology. And I think you had said that you don't believe that this methodology is valid in the field of pathology. Is that about where we were?

A. Yes, I agree.

Q. Was there anything about Mr. Hardeman's case that would make you think differently about using the methodology that is up here on the slide?

A. No. Mr. Hardeman's case is a typical case of non-Hodgkin's lymphoma.

Q. Now, as you can see on the -- on the image on the screen -- and as I think you know from his testimony -- Dr. Weisenburger concluded that Roundup was a substantial contributing cause in Mr. Hardeman's NHL; is that your

understanding?

A. Yes.

Q. Do you agree with that conclusion?

A. No, I don't.

Q. And why is that, Doctor?

A. Well, there are a number of contributing risk factors involved; but, first of all, I don't believe that Roundup causes lymphoma, and Mr. Hardeman had a number of other risk factors that put him at risk for developing lymphoma. And -- but again, the vast majority of non-Hodgkin's lymphoma are idiopathic.

Q. Doctor, what, if any, role does Roundup play in your clinical practice?

A. None. When I receive specimens, I always get a list of details of the clinical information that the treating physician feels are important for me to make a diagnosis, including risk factors; and I have never in my career received a specimen where Roundup was listed as a risk factor for a patient.

Q. Let's talk about the specimens themselves. Is there any genetic marker you can see on a slide that would tell you that Roundup was involved in a patient's NHL?

A. No.

Q. Is there any biological feature?

A. No.

Q. Anything at all that you can see on the slides as a

pathologist?

A. No.

Q. Doctor, over the course of your career, have you reviewed slides from patients with NHL where you ultimately weren't able to determine the cause?

A. Yes, there were many causes. I can't determine the cause from looking at the slides.

Q. And how about cases where some of the risk factors here were present, like age or gender or something like that?

A. Yes. I mean, the majority of patients have some risk factor; but from looking at the slide, I still can't determine the cause.

Q. Well, how did Mr. Hardeman's slides compare to the slides you were just talking about of those other patients?

A. So every patient's tumor is a little bit different, but his tumor is within what I would say -- what is expected for diffuse large B-cell lymphoma. In fact, you can put it in a textbook as an example of that diagnosis.

Q. So based on your review of the pathology, do you agree with Dr. Weisenburger's conclusion about Roundup?

A. I'm sorry. Could you say that again?

Q. Sorry. Sure.

Based on your review of the pathology, do you agree with Dr. Weisenburger's conclusion about Roundup and its role in Mr. Hardeman's NHL?

A. No, I do not.

Q. Let's briefly talk about Mr. Hardeman's risk factors for NHL. Dr. Weisenburger said that he could rule out age, sex, and race for Mr. Hardeman as risk factors. Based on your experience in the field of pathology, do you agree with ruling out those risk factors?

A. No. All of those put him at higher risk for getting non-Hodgkin's lymphoma: Male -- sex, being Caucasian, and being older.

Q. And, again, based on your experience in pathology, do you believe that Mr. Hardeman's hepatitis B can be ruled out as a risk factor?

A. No.

Q. And why is that, Doctor?

A. Well, it is known that hepatitis B infection is associated with an increased risk of non-Hodgkin's lymphoma.

Q. On the topic of hepatitis C, Doctor, what, if any, role does that play in your clinical practice?

A. Well, it is considered a risk factor for non-Hodgkin's lymphoma, and that is frequently given as a piece of pertinent history when I look at a patient being evaluated for lymphoma.

Q. Well, Dr. Weisenburger said that he could rule out hepatitis C as a cause for Mr. Hardeman. Based on your experience and training, do you agree with that conclusion?

A. No, I do not.

Q. Do you know how long Mr. Hardeman had hepatitis C?

A. Well, the test wasn't available probably at the time that he contracted it, but it appears that he had hepatitis C probably for somewhere around 39 or 40 years.

Q. And did that hepatitis C show up in any way in his body over those years?

A. Yes. He had cirrhosis, which was a direct effect of the virus.

Q. Was there any other indication in the records of any kind of manifestation of hepatitis C before then?

A. Well, he had elevated liver function tests indicating that he had hepatitis of some cause.

Q. Well, Dr. Weisenburger, I believe, said he could rule out hepatitis C because Mr. Hardeman was cured of his hepatitis C in 2005. Do you agree with that conclusion?

A. No, I don't believe -- just the nature of these viruses, you can knock them down to a very low level where they are not detectable in the blood, but viruses remain in your body. They can remain dormant in a very small number of cells and come back at any time.

Q. Dr. Weisenburger also testified that Mr. Hardeman had a sustained virological response to hepatitis C. Do you think that that -- how does that affect your conclusion on whether hepatitis C can be ruled out in this case?

A. Well, I agree. He had a sustained virologic response, and

that significantly reduces your risk for getting non-Hodgkin's lymphoma; but it doesn't eliminate your risk of getting lymphoma. In patients with a sustained virologic response, there are many documented cases of patients getting non-Hodgkin's lymphoma.

Q. Well, Doctor, I want you to assume for a second that the virus was completely gone from Mr. Hardeman's system in 2005, okay. If that were the case, would you -- would you be able to rule out hepatitis C as a cause of his NHL diagnosed in 2015?

A. No.

Q. And why is that?

A. Well, there is a very long latency period or the time from the damage caused by the virus to the time that you get lymphoma. And I think I mentioned yesterday, it can take years to get lymphoma once that damage occurs. So the damage from the virus could have occurred. He could have then been treated, but the cells that were damaged still remain in the body. They don't have to be infected by the virus to cause lymphoma in hepatitis C.

Q. And, Doctor, have you seen what you just described to the jury referred to as the hit-and-run theory?

A. Yes.

Q. And do you believe that that's documented in the medical literature?

A. Yes, it is well documented that the virus can enter a

cell; cause genetic damage, and then leave the cell; and that genetic damage persists and can ultimately lead to lymphoma.

Q. Doctor, let's just take a step back then and talk about your overall conclusions in this case. Based on your experience in the field of pathology, what conclusion were you able to reach about the role that Roundup played in Mr. Hardeman's NHL?

A. Well, I think as a practicing amount of pathologists, I don't think it is accepted in the medical community that Roundup is a cause of lymphoma; and I don't believe it caused Mr. Hardeman's lymphoma.

Q. And do you believe that Dr. Weisenburger used valid methods within the field of pathology in concluding that Roundup caused Mr. Hardeman's NHL?

A. No. From reading his testimony, he really didn't discuss how he actually practiced pathology. It was really not in the standard of what is the normal practice of pathology.

Q. Doctor, in reaching the conclusions that you have offered to the jury, did you reach all of them to a reasonable degree of medical certainty?

A. Yes.

Q. And what did that standard mean to you as you were going through your analysis of the case?

A. Well, I looked at the case -- just like I would look at any case that came from my office for a patient being treated

in my institution or as a consultation -- and used the same methodology.

Q. So did the methods that you have described for the jury differ in any way from what you do with a patient in Chicago or one of the patients that is referred to you?

A. They only differed in that I had more access to the medical record than I usually do, so I saw more of the history, but otherwise it is identical.

MR. KILARU: Your Honor, we have no further questions at this time.

THE COURT: Okay. Any cross?

MS. MOORE: Yes, Your Honor. Thank you.

CROSS-EXAMINATION

BY MS. MOORE

Q. Good morning, Dr. Arber.

A. Good morning.

Q. I want to pick up right where you left off. And I understand you are a pathologist, right?

A. Yes.

Q. Okay. And so patients don't actually come into your office; is that true?

A. That's true.

Q. Okay. So what you are looking at is the tissue that the doctor took and sent to your lab to review, right?

A. Yes, that's correct.

Q. You don't have direct interaction with patients?

A. Not usually, no.

Q. Okay. All right. You were just asked by counsel some questions about risk factors. And I wanted to make sure I understood your testimony. You were saying that Dr. Weisenburger shouldn't have eliminated age, sex and race; is that right?

A. Yes.

Q. Did you also review Dr. Levine's testimony from yesterday, or were you just reviewing Dr. Weisenburger's?

A. I have not seen Dr. Levine's testimony.

Q. Would it surprise you to learn that Dr. Levine also eliminated age and sex as a causative risk factor --

MR. KILARU: Objection, Your Honor. Relevance and misstates testimony.

THE COURT: Why don't we have a sidebar?

(The following proceedings were heard at the sidebar:)

[redacted]

[redacted]

(Proceedings were heard in the presence of the jury:)

THE COURT: The objection is sustained.

BY MS. MOORE

Q. Dr. Arber, do you know the difference between a risk factor and a causative risk factor?

A. No, actually I don't. I don't think there is a clear line between the two.

Q. Okay. The jury heard from Dr. Levine yesterday describe a causative risk factor, and I asked her if the causative -- if age and weight are causative risk factors and she said they are not causative risk factors.

Do you disagree with Dr. Levine?

A. No. Age alone doesn't cause someone to get lymphoma. It puts them at a higher risk.

Q. Okay. And you are not telling this jury that the fact

that Mr. Hardeman was 66 caused him to get non-Hodgkin's lymphoma, are you?

A. Well, there are some patients that get lymphoma because they become more immunosuppressed as they get older. In his case I don't think there is evidence of that.

Q. Okay. And you are not telling this jury that because he was slightly overweight that Mr. Hardeman got non-Hodgkin's lymphoma, are you?

A. Well, it increased his risk, but I don't think that that alone caused him to get lymphoma.

Q. Okay. You agree with Dr. Weisenburger the diagnosis is diffuse large B-cell lymphoma? That's what you -- that's what you saw from the slides, correct?

A. Yes.

Q. Okay. And, in fact, that is not an issue in dispute in this case, is it?

A. No, it's not.

Q. Is it your testimony that you simply don't know what the cause of Mr. Hardeman's diffuse large B-cell lymphoma is?

A. Well, my testimony is I have looked at the slides; and based on looking at the slides, there is not a clear cause and it is most likely idiopathic.

Q. Okay. And that's from looking at the actual tissue slides themselves, correct?

A. A combination of looking at the clinical information and

the tissue slides, yes.

Q. Okay. And I understood your testimony -- and that's because there is no marker or feature on the slides to tell you what the cause of the non-Hodgkin's lymphoma; is that fair?

A. Yes, there are no features looking under the microscope that tell me a cause, and there are certain ones that you can identify by looking in the microscope. In this case there were none.

Q. Okay. And the same is true if you had a patient's tissue sent to you to diagnose; that if they had lung cancer, you couldn't tell that it was caused by cigarette smoking, correct?

A. Well, I don't do lung cancer in my specialty, so I really don't feel comfortable answering that.

Q. You don't know that there is not a marker on pathology?

A. I know that there are certain types of lung cancer that correlate with smoking, yes.

Q. Right. But you can't tell -- let me ask you this: There are other types of cancer that just by looking at the slides you can't tell the cause; is that fair?

A. Yes. That's why we -- to make a diagnosis we get clinical information as well as looking at the slide.

Q. Okay. And I want to make sure because I think we are talking about two different things then. So diagnosis, that, in this case, the diffuse large B-cell lymphoma, correct?

A. Yes.

Q. Okay. And you can tell that from the slide?

A. I can, but to make a complete diagnosis, I have to have the clinical information because there can be cases that look like diffuse large B-cell lymphoma and in the right clinical setting would be a different diagnosis.

Q. Okay. And then there is the separate question as to what causes the diffuse large B-cell lymphoma, and from that question you can't tell that from the slide, just like you can't tell whether someone's lung cancer is caused by smoking, correct?

A. Well, not always. There are sometimes I can tell by looking at the slide what is the cause of it.

Q. Right. But there are cases that you cannot tell the cause from looking at the slide?

A. That's correct.

Q. And, Dr. Arber, did you consider at all Roundup being a risk factor for Mr. Hardeman getting non-Hodgkin's lymphoma?

A. No. There was no mention of it in his medical record, and it is not accepted in the practice of pathology, that Roundup is a risk factor for lymphoma.

Q. Okay. And I heard you say that. And I just want to be clear because your testimony is that you had the opinion that Roundup is not a cause of lymphoma. Is that your opinion that you are giving to this jury?

A. Yes, based on my clinical practice, my attendance at

medical pathology conferences, hematology conferences, I never even heard it mentioned in one of those conferences as a cause of lymphoma.

Q. Okay. Well, Dr. Arber, isn't it true that you actually do not consider yourself an expert as to whether glyphosate can cause non-Hodgkin's lymphoma?

A. That's correct because it's not something that is just accepted in my specialty. It's been studied outside of that, but --

Q. And that wasn't my question, Dr. Arber. My question to you was: It is true that you do not consider yourself an expert as to whether glyphosate can cause non-Hodgkin's lymphoma. That's true, correct?

A. That's correct.

Q. Okay. And it's true that you are not offering any opinions to this jury regarding epidemiology, correct?

A. I'm not an epidemiologist. I can, you know, have a superficial knowledge of it; but I'm not considered myself an expert in epidemiology, no.

Q. Okay. And you are not offering any opinions to this jury about the animal studies, correct?

A. That's correct. I only look at human tissues.

Q. Okay. You don't consider yourself an expert in animal studies, correct?

A. That's correct.

Q. Okay. And then you are not offering any opinions regarding the mechanistic data or the cell studies, correct?

A. That's correct.

Q. Okay. And you have no opinion as to whether Roundup is genotoxic, correct?

A. I have -- I have seen no studies about it causing genetic defects that result in lymphoma.

Q. Okay. You are not offering an opinion to this jury whether Roundup is genotoxic, correct?

A. That's correct.

Q. And the jury has heard about a Bradford-Hill analysis. You didn't do any kind of Bradford-Hill analysis in this case, correct?

A. No, that's not in the realm of pathology practice.

Q. Okay. And that brings up a good point. You said a couple times that -- you said that Dr. Weisenburger, what he was talking about was outside the practice of pathology. Do you know that Dr. Weisenburger is a hematopathologist?

A. Yes, I do.

Q. Okay. And do you know that he has been studying the causes of non-Hodgkin's lymphoma for over 40 years?

A. I believe that is an interest of his, yes.

Q. And you know Dr. Weisenburger?

A. Yes, I do.

Q. Okay. And you respect Dr. Weisenburger?

A. Yes, I do.

Q. Okay. You think he is a good hematopathologist?

A. Yes.

MS. MOORE: Okay. Those are all the questions I have. Thank you, Dr. Arber.

THE COURT: Anything on redirect?

MR. KILARU: No, Your Honor.

THE COURT: Okay. Dr. Arber, you can step down.

THE WITNESS: Thank you.

THE COURT: Okay. Anything further from Monsanto?

MR. STEKLOFF: No, Your Honor.

We rest.

THE COURT: Okay. And anything further from the Plaintiffs on rebuttal?

MS. MOORE: Yes, Your Honor. We would like to call Dr. Portier.

THE COURT: Well, wait a minute.

MS. MOORE: I'm sorry, Your Honor. We can do a sidebar? I'm sorry.

THE COURT: I told you that if you wanted to call rebuttal witnesses, you had to let them know by 8:00 p.m. last night.

MS. MOORE: We did, Your Honor.

THE COURT: Okay. Then we will -- why don't we take a quick break and we will discuss that issue. Why don't -- let's

take a quick morning break. I know it is an early morning break -- sorry about that -- but we will get back to you as soon as possible. Thank you.

(Proceedings were heard out of presence of the jury:)

THE COURT: I was under the impression that I was also going to be informed last night at 8:00 o'clock if the Plaintiffs wish to call a rebuttal witness and if there was a dispute about that. So I'm just hearing about this dispute now?

MS. MOORE: I'm so sorry, Your Honor. We did send them our rebuttal testimony. They sent back their counters and objections last night. So that's where that is. Our tech has that information. And so we can -- and I apologize, Your Honor. I thought we were only to send it to the defense, so that's what we did. We had an exchange last night.

THE COURT: Okay. So what is the issue? Is Monsanto objecting to any of the testimony --

MR. KILARU: All of it, Your Honor.

THE COURT: Okay. So tell me what the testimony is.

MR. KILARU: Okay. Well, I think there is two sets of proposed testimony. One from Dr. Portier. And we received the materials from Dr. Reeves -- Reeves -- I don't know if there is an intent to play that as well.

MS. MOORE: Your Honor, I have a copy of the highlighted transcript.

THE COURT: Okay. Do you want to play -- is it just Portier that you want to play, or do you want to play Reeves' testimony as well?

MR. WOOL: I think we want to play both, Your Honor.

THE COURT: Okay. You think --

MR. WOOL: We do.

THE COURT: Okay.

MS. MOORE: Here is the highlighted transcript for Dr. Portier.

THE COURT: Okay.

MR. KILARU: I guess we can start with Dr. Portier.

First of all, Your Honor, we -- I think as a background principle, we think that under Ninth Circuit law, rebuttal evidence has to be based on new facts that we brought out in our case in chief, and it can't just be an effort to introduce evidence that could have been introduced in the Plaintiff's case in chief. And on that we cite the *Goldfinger* case -- and I can provide citations if Your Honor would like -- that is 869 F2d, 1497.

There is also other cases like a case called *Brutsche*, B-R-U-T-S-C-H-E, which says rebuttal evidence can't be offered to simply bolster the Plaintiff's case in chief.

So within Portier, there are four pieces or proposed areas of testimony that he would cover. I think it might be easiest to talk about them in categories.

The first is there was testimony you excluded from Dr. Reeves' deposition and, I believe, similar testimony is being proffered now through Dr. Reeves.

But to start with Dr. Portier, it is testimony essentially about Monsanto's position on whether there is evidence or not evidence of carcinogenicity. And I think Your Honor has already excluded evidence of that sort in Plaintiff's case in chief, and so I don't think Dr. Portier should now be played to rebut that evidence as part of the rebuttal case, especially when I don't think anything that we have done really goes to that issue.

Second, there is testimony that rehashes what IARC concluded -- sort of what their conclusions were about sort of the various areas of science, and there is actually questions of Dr. Portier about whether he agrees with IARC, which we think should be excluded as well, consistent with the way the case has been litigated so far. I don't think anything we have done opened the door to that.

Third, there is testimony about IDT and its involvement with the *Knezevich & Hogan* situation. I think that was clearly excluded by motions in limine before the trial, and so I don't think that has any place in Phase One.

And then last, there is additional testimony from Dr. Portier on the *Knezevich & Hogan* study, which we didn't even discuss in our case in chief at all.

THE COURT: Sorry, could you say -- could you start over on the fourth one?

MR. KILARU: Yes. Sorry, Your Honor.

There is more testimony from Dr. Portier sort of providing his analysis of the mouse -- the magic tumor issue, the *Knezevich & Hogan* issue. So there are questions asked of him of sort of what his opinion is on that issue. And I think that that if it was ever going to come in, it should have come in earlier; but I don't think that it will come in, consistent with Your Honor's prior rulings and sort of the limited role for that that we had discussed.

THE COURT: Well, I made takeaways. I'm very pleased that you seem to have adopted our use of the term "magic tumor."

MR. KILARU: The second I said it, I knew you would notice.

THE COURT: Okay.

MR. WOOL: With respect to the first issue, we think that Dr. Mucci opened the door when she said there is no evidence across the board as to whether or not Roundup is associated with non-Hodgkin's lymphoma. And so we think that this testimony is sort of directly relevant to rebut that testimony.

THE COURT: I mean, was there any -- did you experience any ounce of surprise when Dr. Mucci said that?

MR. WOOL: Well, I think we were somewhat surprised as to the breadth of the opinion. I think it wasn't limited only to the epidemiological studies. I think that she went beyond the epidemiological studies, and that's why we think this testimony is appropriate here.

MR. KILARU: Your Honor, I believe you told the jury to disregard the other testimony. We actually didn't go back into it after that. I think you said we could but we didn't.

THE COURT: Okay. So let me ask you this before you continue on the -- on the categories, did Mr. Kilaru accurately describe the categories of testimony that you are trying to get in or is there something else?

MR. WOOL: I think that accurately describes the categories with respect to Dr. Portier.

THE COURT: Okay. So number one is more testimony on Monsanto's position on carcinogenicity?

MR. WOOL: Yes.

THE COURT: The second one is the stuff -- more testimony about what IARC concluded?

MR. WOOL: Yes, sort of re -- sort of rehabilitating the IARC opinions, if you will.

THE COURT: Sorry?

MR. WOOL: Rehabilitating or kind of re-visiting the IARC opinions, I guess, is sort of the second category.

THE COURT: Is there anything that -- like, what is

your -- do you have any argument for why it should come in on rebuttal as opposed to having already come in in your case in chief?

MR. WOOL: Well, I think with respect to -- to that one, I think it has come in in the case in chief.

THE COURT: Okay. Okay. So what else?

MR. WOOL: Then with respect to the IBT studies, there was some testimony that came in from Dr. Reeves on -- for Monsanto's designations with respect to -- not binding studies per say, but you can't tell an expert what to do. I think the IBT stuff, the *Knezevich & Hogan* stuff, goes directly to that; that you can't just hire an expert and tell them we want this result, which was sort of the testimony that was elicited from Dr. Reeves. And so this testimony that we have designated would rebut that testimony that we heard from Monsanto in that form.

THE COURT: Okay. And then more testimony from Portier on the magic tumor?

MR. WOOL: Yes. So that would, again, just go to rebut Dr. Reeves' testimony on the magic tumor stuff and the EPA kind of came to the correct conclusion.

THE COURT: I mean, I guess I'm not understanding -- I mean, you put in Dr. Reeves' testimony in your -- in your case in chief, so you are -- you are saying you want -- you want to -- on rebuttal you want to include more testimony rebutting

the testimony that you put in in your case in chief?

MR. WOOL: Well, giving Dr. Portier the opportunity to kind of explain --

THE COURT: But you knew what was -- you presumably knew what was coming in from Dr. Reeves in the case in chief and could have -- if you really thought there was something that -- extra that needed to rebut that, you could have put it in during your case in chief, right?

MR. WOOL: Well, we couldn't have called Dr. Portier to do that after the Reeves' testimony was designated. So I guess that that is sort of the issue; that Dr. Portier was in Australia. We didn't know what --

THE COURT: Didn't we come back and play a little extra snippet of Dr. Portier? Like, you did actually ask -- Portier was done and then you asked for -- to play another snippet of Portier's testimony, and that was the last, right?

MR. WOOL: Right. And in response to some of the genotoxicity evidence that came in through the questioning of Dr. Portier -- and so that evidence was played in response to some of the questions Monsanto elicited on cross of Dr. Portier -- and that was played, I believe, before Dr. Reeves testified.

THE COURT: Okay. Anything else you want to argue on these -- on Dr. Portier's testimony?

MR. WOOL: I believe that's it, with respect to

Dr. Portier.

THE COURT: All right. Now what about Reeves?

MR. KILARU: So on Dr. Reeves, Your Honor, can I make one additional point on Portier?

THE COURT: Go ahead.

MR. KILARU: The point on the -- just on the IBT and Portier issue, because I think you are recalling this already, but they wanted to designate IBT testimony from Dr. Reeves and you excluded it. And so I think they actually did have an opportunity to respond in the sense of we designated it. They designated it. You just didn't think it should come in, so I don't think it could be rebutted now.

THE COURT: Right. I understand.

MR. KILARU: So with Reeves, I think there are a few things. Much of the testimony I think is -- I think, similar to testimony -- not identical but similar, to testimony Your Honor said couldn't come in in Phase One in the first ruling when you basically said -- I think something to the effect of -- the first 70 to 80 pages I have looked at, none of that should come in. So a lot of the testimony is about whether or not Monsanto has done certain studies on rats and mice, whether Monsanto has refused to do certain studies on rats and mice, and what Monsanto's position is on this whole no evidence of carcinogenicity issue.

I just note that Dr. Mucci did actually say across the

board that there is no evidence or even that there is no epidemiological evidence. She pointed out there is not a causal association. That was her testimony.

So as we go forward into the proposed designations, there are questions about communications, text messages that Monsanto had with the EPA, which I think is stuff that you have already excluded from the trial; and it actually relates to more recent communications between Monsanto and the EPA.

THE COURT: Wait. Sorry. I'm confused. Are you still talking about Phase One and stuff that they are trying to get in in Phase One?

MR. KILARU: Yes. In the proposed Reeves' designations in rebuttal, there are questions asked to Dr. Reeves about whether Monsanto has sent text messages to the EPA. There are questions about the paper responding to IARC involving conversations between Mr. Reeves and Acquavella and InterTech, which I think is something that is clearly not a Phase One issue, maybe not even a Phase Two issue based on Your Honor's pretrial rulings. So we think all of the Reeves' testimony -- nothing -- we think nothing we did opened the door to the Reeves' testimony.

We think all of it is materially identical to testimony you have excluded already, either through motion in limine rulings or through the actual rulings on Dr. Reeves' deposition. So we don't think there is any basis for playing

it now, especially because I don't think we opened the door to any of those.

THE COURT: Okay. And so I -- I have been handed this Portier stack of papers that constitutes Portier's testimony. And the proposed testimony is highlighted?

MR. WOOL: Correct.

THE COURT: The testimony that you want designated for rebuttal is highlighted?

MR. WOOL: That's correct.

THE COURT: And then are there any counter designations? It seems like it's very -- not that it matters, but it seems like it is relatively little testimony. Yes?

MR. KILARU: I believe it is about half an hour when we got it, I think.

MR. WOOL: Yeah, I think that's accurate.

THE COURT: I'm not seeing any highlights after page -- I just want to make sure. I mean, virtually every transcript I have gotten from the Plaintiffs has been messed up throughout this trial, so I want to make sure that I have got the right one here.

MR. KILARU: Your Honor, I know we sent them some counters in a spreadsheet, but I don't believe those are included in what you have.

THE COURT: I'm not seeing any highlights after page --

MS. MOORE: 699.

THE COURT: -- 699; is that correct?

MS. MOORE: This is the version of the transcript that we sent to them last night before 8:00. I think we got their counters around midnight. It has not been added, but we have the Excel sheet. Or do you have the --

MR. KILARU: I'm sure we have the copy of the Excel sheet.

MS. MOORE: We can hand you a copy of the Excel sheet. I apologize, Your Honor.

THE COURT: The Reeves' testimony, is somebody going to hand me the Reeves' testimony?

MR. WOOL: I guess we don't have a copy.

THE COURT: You don't have a copy of the Reeves' testimony that you want to play?

Okay. Well, that probably answers that then, doesn't it?

MR. WOOL: Okay.

MS. MOORE: Your Honor, we can print a copy of the run report very quickly.

THE COURT: Okay. I will go take a few minutes to look at this, and I will come back.

MR. STEKLOFF: Your Honor, if I'm going to make one slide based on Dr. Arber's testimony, should I run it by you? I don't think it will be controversial, but I don't want to present a slide that has not been previewed for Your Honor.

THE COURT: Yeah, why don't you run it by me.

MR. STEKLOFF: Can I do that ex parte. Is that okay?

THE COURT: Sure.

MS. WAGSTAFF: Your Honor, may I hand you a color glossy copy of my PowerPoint?

THE COURT: Okay.

THE CLERK: Court is in recess.

(Recess taken at 9:09 a.m.)

(Proceedings resumed at 9:20 a.m.)

THE COURT: So I have reviewed Dr. Portier's proposed rebuttal testimony. I think there are a number of problems with it. I think it is not proper rebuttal testimony. And it's also precluded either under Rule 403 or -- and/or my -- the prior motion in limine rulings. So Dr. Portier's testimony will not be permitted.

Based on the description of Dr. Reeves' proposed testimony, which nobody has yet given to me, it appears that that is also excludable for the same reasons.

So we -- we will proceed with -- shortly with closing arguments.

Now, I have got -- I just received a request for a curative instruction which says, The parties agree that Mr. Hardeman used Roundup as set forth in the label. I'm not inclined to give this instruction for the reasons that I gave yesterday unless Monsanto thinks it is appropriate.

MR. STEKLOFF: We do not think it is appropriate.

THE COURT: Okay. We had a chance to discuss this yesterday. I don't think further discussion is needed.

MS. MOORE: We did, Your Honor. I just wanted to tender that to the Court.

And should we then file that electronically?

THE COURT: Yes, please.

MS. MOORE: Okay. Will do. Thank you.

MR. STEKLOFF: While we are preserving things, I'm just going to renew our directed verdict motion at the end of the case, and we will file it as Mr. Kilaru said earlier today.

THE COURT: Okay. That's fine.

MS. WAGSTAFF: I want to talk about that.

MS. MOORE: Your Honor, we oppose that.

THE COURT: Do you want to -- I mean, do you want to take a couple minutes to just make the motion right now?

MR. KILARU: I can, but I also don't want to keep the jury waiting. So whatever you prefer.

THE COURT: Okay. Well, I have to spend some time now going through the Plaintiff's closing slides. So -- as long as you are comfortable that it is preserved -- you are preserving your record, I would prefer to wait.

MR. KILARU: That's fine.

MR. STEKLOFF: We are fine with that. We are comfortable based on that. I did it at the end of the

Plaintiff's case. I have done it now.

THE COURT: You have done it like five times.

MS. WAGSTAFF: I can't wait to hear it.

MR. STEKLOFF: That's how confident we are.

THE COURT: It is sort of like my kids, if you ask enough times, I'm eventually going to -- okay.

So I will now go back and review the slides. So I'm expecting that is going to take about 15 minutes. So why don't we go ahead and plan on resuming at 40 minutes after the hour. Presumably we will have to have a little discussion about some of the slides, and then we will go straight to closing arguments.

MS. WAGSTAFF: Okay. And, Your Honor, if I need to change my slides up in any way, I will just have to do that and send that to my tech person, so that may take about five minutes.

THE COURT: That's fine. But this time will be coming out -- starting now will be coming out of the Plaintiff's case.

(Recess taken at 9:24 a.m.)

(Proceedings resumed at 9:49 a.m.)

THE COURT: All right. You can go ahead and stop the clock, Kristen.

Okay. So I didn't have anything else major, other than what I raised. There are a couple things, though.

Number one, there is reference in a number of the slides

to the opening statement roadmap where you gave them the roadmap, that's fine. But I just want to take the opportunity to say you cannot say anything else about what you said in your opening statement, other than that roadmap given what happened in the opening statement.

Slide Number --

MS. WAGSTAFF: I just intend to use those, as you probably know, to say here is what I showed you; here is where we went, sort of as the guide.

THE COURT: That's fine, but no more than that. No additional references to anything that you said in opening statement.

The ninth slide seems to portray Dr. Weisenburger as testifying that Roundup is 100 times more toxic than glyphosate. That's not what he testified to. That wasn't his testimony, so you will have to take out that slide.

MS. WAGSTAFF: I actually -- can we look at the testimony?

THE COURT: Yeah. He testified that one study -- he was testifying about a couple different studies. He said this study says one hundred times. He said that study says ten times.

MS. WAGSTAFF: So can I put one study shows -- I mean, I thought this was a quote from his testimony.

THE COURT: It is an incomplete quote from his

testimony. So given the time --

MS. WAGSTAFF: I can change it to a complete quote.

THE COURT: Okay.

MS. WAGSTAFF: Okay.

THE COURT: There are a number of slides, for example, Number 33, Number 72. 33 says Monsanto did not dispute the animal data. 72 says Monsanto did not dispute the mechanistic data.

I don't think that's fair. You have a number of other slides that say -- you know, with some very colorful graphics -- that say that Monsanto didn't bring any witnesses to testify about the mechanistic data and the animal data. I think that's fine.

MS. WAGSTAFF: I can take out the ones about disputing, if that makes you more comfortable.

THE COURT: Yeah, because they did dispute it through cross-examination. So I don't think that's fair.

MS. WAGSTAFF: I will just delete those.

THE COURT: There are a few of them. One example is at page 33. One example is at page 72.

MS. WAGSTAFF: I do it after each pillar, so it is easier for me to delete those.

THE COURT: Okay.

MS. WAGSTAFF: There is only three.

THE COURT: Okay.

MS. WAGSTAFF: Although I will say they didn't really dispute the mechanistic data.

THE COURT: They cross-examined them quite a bit on that.

MR. STEKLOFF: I think we were accused of opening the door through our cross-examination.

THE COURT: And then -- let's see. The only other one I wanted to float -- I actually think it is probably fine -- but I wanted to float it just to make sure I'm not missing anything, at page 44 -- at Slide 44.

MS. WAGSTAFF: I have deleted a few since you said, so my number is off. If you can just describe a little bit to me.

THE COURT: Yeah, the slides about the magic --

MS. WAGSTAFF: Uh-huh.

THE COURT: -- mouse tumor.

MS. WAGSTAFF: Yeah.

THE COURT: Where you say a couple of -- on a few different slides, EPA determines glyphosate as a Class C oncogene. I think that is probably fine, but I just wanted to raise it in case Monsanto has an objection because it was a particular unit within EPA or anything like that.

MS. WAGSTAFF: And, Your Honor, all of those documents I have gone back and cross-referenced that I cite in there are in evidence.

THE COURT: Right.

MS. WAGSTAFF: So what I'm saying is sort of straight from the documents.

THE COURT: Yeah, I saw that.

MS. WAGSTAFF: Okay.

THE COURT: So I was only referring to the statement -- I was anticipating a possible objection from Monsanto that it should have been the Office of Pesticide Programs or something and not EPA. I think I would probably be inclined to overrule that objection if it were made, but I wanted to give Monsanto a chance to discuss it.

MR. STEKLOFF: Yeah. I mean, I was -- I'm not surprised we are hearing about the magic mouse tumor. So based on what you described, I don't have an objection.

THE COURT: Okay. All right. So that's it.

Why don't we have -- is 10:00 o'clock okay to begin? Would you like a little bit more time?

MS. WAGSTAFF: Just maybe a little bit more so I can find the slides and delete them.

THE COURT: Okay. So we will come back out at 10:05 to begin closing arguments.

Do you have an estimate, any more information about roughly how long you plan to take?

MS. WAGSTAFF: I'm hoping --

THE COURT: Oh, by the way, I will instruct them first.

MS. WAGSTAFF: Oh, okay. So your instruction will probably take, what, 15, 20 minutes?

THE COURT: If that.

MS. WAGSTAFF: Okay, 15 minutes. I could be done by oh, that's 11 -- that's 10:15 -- by lunch, 11:30, 11:45. I'm hoping for about an hour and a half.

THE COURT: Total or on your initial?

MS. WAGSTAFF: On my initial, yeah. And then that would -- then I guess Mr. Stekloff would go after lunch. And then I would rebut after lunch is what I would guess.

THE COURT: Yeah, that sounds right.

MR. STEKLOFF: Around the 11:30 timeframe, I don't want to be the person responsible for the jury --

THE COURT: Yes. That sounds like a plan. Okay. Be back at 10:05.

MS. MOORE: Your Honor, one quick thing, housekeeping. There was the blowup -- you will remember the differential blowup that Dr. Weisenburger marked the 2 on, and it was scratched out. I never referred to it as a number in the record, and we have labeled it 937. I'm not moving to enter it into evidence; but for identification purposes, I want to refer to that blowup as 937.

THE COURT: Okay. Any objection?

MR. STEKLOFF: Absolutely not. My -- I believe based -- they -- Ms. Moore and Ms. Wagstaff showed me a

different sort of version, a graphic version of that, they used during opening. I have no objection to them using that during closing.

THE COURT: That's what you are using?

MR. STEKLOFF: I don't think they should use the board with the scratched --

MS. MOORE: We are not, Your Honor. That was just for housekeeping.

THE COURT: Okay. Be back at 10:05.

THE CLERK: Court is in recess.

(Recess taken at 9:56 a.m.)

(Proceedings resumed at 10:05 a.m.)

THE COURT: Okay. Before we call the jury in, somebody informed me that the courtroom was really full. I want to make sure, has anybody see any indication that anyone was turned away? Because I was thinking that if we need overflow, we could, you know, potentially put some of Monsanto's army of lawyers up there in the back to make more room for the gallery.

UNIDENTIFIED FEMALE: Your Honor, there are at least four more people I know of who are on their way to the courthouse right now.

THE COURT: I'm trying to get a sense of how much seating is available.

MS. WAGSTAFF: There are a couple over there. You may

not be able to see.

THE CLERK: There is some in the back row too.

THE COURT: Does it seem like we are okay?

MR. KILARU: I think so, yes.

THE COURT: I just want to make sure no member of the public is denied the ability to see this if they want to. Okay. So bring in the jury.

(Proceedings were heard in the presence of the jury:)

JURY INSTRUCTIONS

THE COURT: Okay. Welcome back. Thank you for your patience.

As we previously discussed, we are conducting this trial in phases. We have now reached the end of the first phase which is about medical causation. So I'm going to read you now your instructions as they relate to this phase. You will each have a copy set of these instructions in the jury room with you. You will each have your own set, so you don't need to worry about writing everything down furiously, but the purpose of my reading them to you now is just to give you a little bit of a roadmap and help you understand the closing arguments that the lawyers are going to make before you begin your deliberations.

So as you know, Mr. Hardeman alleges that he developed non-Hodgkin's lymphoma from his use of Roundup products manufactured by Monsanto.

Monsanto denies that Roundup can cause non-Hodgkin's lymphoma and specifically denies that Mr. Hardeman's non-Hodgkin's lymphoma was caused by his use of Roundup.

For this phase you are asked -- you are being asked to reach a verdict on this question. The lawyers will have an opportunity to make closing arguments to you about this issue, and then you will begin your deliberations and while you deliberate, the lawyers will be busy preparing for the next phase.

It is your duty to find the facts relating to medical causation. It is your duty to find the facts. I will give you the law to apply to those facts. You must follow the law as I give it to you, whether you agree with it or not. And you must not be influenced by any personal likes or dislikes, opinions, prejudices, biases, stereo types or sympathies. This means that you must decide the medical causation question solely on the evidence before you. You will recall that you took an oath to do so.

You must follow all of these instructions and not single out some and ignore others. They are all important. Please do not read into these instructions or into anything that I may say or do or may have said or done as suggesting that I have an opinion regarding the evidence or what your verdict should be. That is entirely up to you.

What is evidence? The evidence you are to consider in

deciding what the facts are consists of sworn testimony of any witness, the exhibits that are admitted into evidence, and any facts to which the lawyers have agreed.

You heard some deposition testimony and you will remember that I instructed you about that. A deposition is the sworn testimony of a witness taken before trial. The witness is placed under oath to tell the truth and the lawyers for each party may ask questions. The questions and answers are recorded. Insofar as possible, you should consider deposition testimony presented to you in court in lieu of live testimony in the same way as if the witness had been present to testify.

What is not evidence? In reaching your verdict you may consider only the testimony and exhibits received into evidence. Certain things are not evidence and you may not consider them in deciding what the facts are. And I will list those for you now.

As you know, arguments and statements made by lawyers are not evidence. The lawyers are not witnesses. What they said in their opening statements, closing arguments and at other times is intended to help you interpret the evidence but it is not evidence. If the facts as you remember them differ from the way the lawyers have stated them, your memory of the facts controls.

Questions and objections made by lawyers are not evidence. Attorneys have a duty to their clients to object when they

believe a question is improper under the rules of evidence. You should not be influenced by the objection or by my ruling on any objection.

Testimony that is excluded or stricken or that you have been instructed to disregard is not evidence and must not be considered.

And finally, anything you may have seen or heard when the Court was not in session is not evidence. You are to make your decision solely on the evidence received in court.

Direct and circumstantial evidence, I talked to you about this at the beginning of trial. Evidence may be direct or circumstantial. Direct evidence is direct proof of a fact such as testimony by a witness about what the witness personally saw or heard or did. Circumstantial evidence is proof of one or more facts from which you could find another fact.

You should consider both kinds of evidence. The law makes no distinction between the weight to be given to either direct or circumstantial evidence. It is for you to decide how much weight to give any evidence and you may -- in considering the distinction between direct and circumstantial evidence, you may want to remember the rain example I gave you at the beginning of trial.

All parties are equal before the law. And a corporation is entitled to the same, fair and conscientious consideration by you as a party.

In reaching your decision you may have to decide which testimony to believe and which testimony not to believe. You may believe everything a witness says or part of it or none of it. In considering the testimony of any witness, you may take into account the opportunity and ability of the witness to see, hear, or know the things testified to; the witness' memory; the witness' manner while testifying -- although keep in mind that different people react differently to testifying in court -- the witness' interest in the outcome of the case, if any; the witness' bias or prejudice, if any; whether other evidence contradicted the witness' testimony; the reasonableness of the witness' testimony in light of all the evidence; and any other factors that bear on believability.

Sometimes a witness may say something that is not consistent with something else he or she said. Sometimes different witnesses will give different versions of what happened. People often forget things or make mistakes in what they remember. Also two people may see the same event but remember it differently. You may consider these differences, but do not decide that testimony is untrue just because it differs from other testimony.

However, if you decide that a witness has testified -- has deliberately testified untruthfully about something important, you may choose not to believe anything that witness said.

On the other hand, if you think the witness testified

untruthfully about some things but told the truth about others, you may accept the part you think is true and ignore the rest. The weight of the evidence as to a fact does not necessarily depend on the number of witnesses who testified to that fact. What is important is how believable the witnesses were and how much weight you think their testimony deserves.

You have heard testimony from a number of expert witnesses who have testified to opinions and the reasons for their opinions. This opinion testimony is allowed because of the education or experience of those witnesses. Such opinion testimony should be judged like any other testimony. You may accept it or reject it, and give it as much weight as you think it deserves considering the witness' education and experience, the reasons given for the opinion and all the other evidence in the case.

Now, the standard of proof in this case is called a, preponderance of the evidence. When a party has the burden of proving a claim by a preponderance of the evidence, it means you must be persuaded by the evidence that the claim is more probably true than not true. Mr. Hardeman has the burden of proving his claims by a preponderance of the evidence. So you should base your decision on all of the evidence presented during Phase One regardless of which party presented it.

To prevail on the question of medical causation, Mr. Hardeman must prove by a preponderance of the evidence that

Roundup was a substantial factor in causing his non-Hodgkin's lymphoma. A substantial factor is a factor that a reasonable person would have considered contributed to the harm. It must be more than a remote or trivial factor. It doesn't have to be the only cause of the harm.

Subject to the additional instructions that I'm about to give you, conduct is not a substantial factor if in causing harm -- conduct is not a substantial factor in causing harm if the same harm would have occurred without that conduct.

So this is the additional instruction that applies if you believe that two or more NHL-causing factors operated independently on Mr. Hardeman.

If you conclude that Mr. Hardeman has proven that his exposure to Roundup was sufficient on his own -- on its own to cause his NHL, then you must find for Mr. Hardeman, even if you believe that other factors were also sufficient on their own to cause his NHL.

On the other hand, if you conclude that Mr. Hardeman has not proven that his exposure to Roundup was sufficient on its own to cause his NHL, then you must find for Monsanto.

You have heard testimony that the Environmental Protection Agency, the EPA; the International Agency for Research of Cancer, the IARC; the European Food Safety Authority, EFSA; and the European Chemicals Agency, ECHA, have reached conclusions about glyphosate. You should not defer to any such

conclusions. They are not a substitute for your own independent assessment of the evidence presented in this case.

Before you begin your deliberations, elect one member of the jury as your presiding juror. The presiding juror will preside over deliberations and serve as the spokesperson for the jury in court. You must diligently strive to reach agreement with all of the other jurors if you can do so.

Your verdict must be unanimous. Each of you must decide the case for yourself, but you should only do so after you have considered all the evidence; discussed it fully with the other jurors, and listened to their views. It is important that you attempt to reach a unanimous verdict but, of course, only if each of you can do so after having made your own conscientious decision.

Do not be unwilling to change your opinion if the discussion persuades you that you should, but do not come to a decision simply because other jurors think it is right or change an honest belief about the weight and effect of the evidence simply to reach a verdict.

Because you must base your verdict only on the evidence received in the case and on these instructions, I have to remind you once again that you must not be exposed to any other information about the case or to the issues it involves. Do not communicate with anyone in any way, and do not let anyone else communicate with you in any way about the merits of the

case or anything to do with it.

This includes discussing the case in person, in writing, by phone, electronic means, e-mail, text messaging, chat room, social media or any other form of communication. This applies to communicating with your family members, your employer, the media or press and the people involved in trial.

If you are asked or approached in any way about your jury service or anything else about this case, you must respond that you have been ordered not to discuss the matter and report that contact to me or Kristen.

Do not read, watch or listen to any news media accounts or commentary about the case or anything to do with it. Do not do any research such as consulting dictionaries, searching the internet or using other reference materials, and do not investigate or in any other way try to learn about the case on your own.

Do not visit or view any place discussed in the case, and do not use internet programs or other devices to search for or view any place discussed during the trial.

Also don't do any research about the case, the law, the people involved, including the parties, the witnesses and the lawyers until you have been excused as jurors.

If you happen to read or hear anything touching on this case in the media, turn away and report it to me as soon as possible.

These rules protect each party's right to have the case decided based only on the evidence that has been presented here in court. Witnesses here in court take an oath to tell the truth and the accuracy of their testimony is tested through the trial process.

If you do any research or investigation outside the courtroom or gain any information through improper communications, then your verdict may be influenced by inaccurate, incomplete or misleading testimony that has not been -- misleading information, excuse me, that has not been tested by the trial process.

Each of the parties is entitled to a fair trial by an impartial jury. If you decide the case based on information presented -- not presented in court, you will have denied the parties a fair trial. Remember that you have taken an oath to follow the rules, and it is very important that you follow these rules.

A juror who violates these restrictions jeopardizes the fairness of these proceedings, and a mistrial could result that would require the entire trial process to start over. So if any juror is exposed to any outside information, please notify us immediately.

You will not have a transcript of the trial in the jury room. If your -- if, during your deliberations, you determine that you want to review the testimony of a witness again, you

can request to have that witness' testimony or a portion of that witness' testimony read back to you in the courtroom with all of us present. It is up to me whether to permit a read-back, and I may require that more of the witness' testimony be read back into the record rather than just the portion that you requested.

Also, a read-back could contain errors. The read-back will not reflect the witness' demeanor, tone of voice or other aspects of the live testimony. The way you remember and understand the live testimony controls. Finally, in your exercise of judgment, the testimony read back cannot be considered in isolation but it must be considered in the context of all the evidence presented.

If it becomes necessary during your deliberations to communicate with me, you may send a note through the courtroom deputy signed by any one of you or more than one of you. No member of the jury should ever attempt to communicate with me except by a signed note. I will not communicate with any member of the jury on anything concerning the case except in writing or here in open court.

If you send out a question, I will consult with the lawyers before answering it, which may take some time. You may continue your deliberations while waiting for the answer to my question.

Remember that you are not to tell anyone, including me or

the courtroom deputy, how the jury stands, whether in terms of vote count or otherwise until after you have reached a unanimous verdict or been discharged.

A verdict form has been prepared for you. After you reach -- have reached a unanimous agreement on the verdict, your presiding juror should complete your verdict form according to your deliberations, sign and date it and advise the courtroom deputy that you are ready to return to the courtroom.

Those are the written instructions that you will have with you back in the jury room. You will each have a copy set. And for now I will turn it over to Ms. Wagstaff.

By the way, in terms of scheduling, Ms. Wagstaff will give her initial closing argument before lunch. Then we will take a lunch break. Mr. Stekloff will give his closing argument, and then Ms. Wagstaff will have a brief period for rebuttal, and then you will be sent to the jury room to begin your deliberations.

THE CLERK: Ms. Wagstaff, one moment.

(Whereupon, a brief pause was had.)

THE COURT: My understanding is there are a few people who tried to get in the courtroom and couldn't find seats. So what I would like is if any lawyers involved in the case -- don't care what side you are on -- I need, like, four or five volunteers to come sit up over there so we have room for

members of the public.

So why don't you pick two or three lawyers from each side to go sit back there.

MS. WAGSTAFF: We can have some people sit at our back table as well.

THE COURT: Okay.

Mr. Hardeman, if you can move your chair so they can come through.

Okay. Plaintiff's side, Ms. Moore, pick a couple lawyers.

MS. MOORE: I think they are moving down. I think there is enough seats.

THE COURT: Okay. But I want them up there in case they need extra room.

MS. MOORE: Okay.

MS. WAGSTAFF: Lawyers, go up there.

THE COURT: Marty, you can flag me down if people are being denied access. Feel free to flag Kristen and I down, and we will do something about it.

Okay. There are also a couple seats behind Ms. Moore at that table, maybe a couple people associated with the Plaintiffs can go up to that table, please.

You can sit up there or you can sit at that table, either way.

Okay. Go ahead.

\\\

CLOSING ARGUMENT

MS. WAGSTAFF: Good morning.

So what a long couple of weeks this has been. It has been difficult for the lawyers, so I can only imagine how hard it has been for you guys; and we thank you very much for your attention and your time. I have watched you throughout the weeks, and I know you guys have been paying close attention. And I thank you on behalf of Mr. Hardeman, who asked me this morning to thank you; and I thank you on behalf of my co-counsel, Ms. Moore, and actually all of the lawyers in this courtroom, no matter what side you are on. Thank you very much for your time and attention here.

So you are going to be asked one question in this Phase One. And the judge just read to you your instructions, and they are very important. Everything he said is very important.

And the most important thing is the verdict form, which is on the very back page that you will get. And the verdict form has one question, okay. The verdict form says: Did Mr. Hardeman prove by a preponderance of the evidence that his exposure to Roundup was a substantial factor in causing his non-Hodgkin's lymphoma?

This is the actual verdict form you are going to get; although, it won't be highlighted.

We think the answer is yes.

Let me walk you through a little bit of the jury instructions that the judge just read to you. You are going to have a packet, like I just said.

Number 9 is the most important jury instruction for this case. Number 9 sets forth this standard of some important terms that you need to know that aren't common sense terms. So it says -- and these are quoting from Number 9 -- to prevail on the question of medical causation, Mr. Hardeman must prove by a preponderance of the evidence that Roundup is a substantial factor in causing his non-Hodgkin's lymphoma. It is really important that you-all remember it is by a preponderance of the evidence, and it is a substantial factor.

Preponderance of the evidence. This isn't like those shows you see on TV where you have to find -- you have to be convinced beyond a reasonable doubt. This is a preponderance of the evidence. If you are sure 50.01 percent, that is a preponderance of the evidence. We always say that if you have a complete weighing of the scales; and you just believe that by putting a feather on it, that is preponderance of the evidence. That's the burden that Mr. Hardeman has to prove to you today; preponderance of the evidence.

Next I want to explain to you substantial factor. This is again -- this is directly coming from -- these are words taken directly from Jury Instruction Number 9: A substantial factor is a factor that a reasonable person would consider to have

contributed to the harm.

I tell you the evidence shows that Mr. Hardeman's exposure to Roundup contributed to his non-Hodgkin's lymphoma. It must be more than a remote or trivial factor. His exposure was a real factor. It does not have to be the only cause of the harm.

This is in the jury instruction, so you have heard a lot of testimony from a lot of different witnesses about his hep C or his hep B. Just remember, it does not have to be the only cause of his harm.

Subject to the additional instructions below, conduct is not a substantial factor in causing harm if the same harm would have occurred without that conduct. It is straight from the jury instruction. I want you to remember, subject to the additional instructions below.

So what are the additional instructions below? The first paragraph just says that it is an additional instruction. If you conclude that Mr. Hardeman has proven that his exposure to Roundup was sufficient on its own to cause his NHL -- this goes back to the preponderance of the evidence I was just telling you about -- then you must find for Mr. Hardeman, even if -- even if you believe that other factors were also sufficient on their own to cause his NHL.

So what does that mean? That means that if we -- if you believe that by a preponderance of the evidence that Roundup

caused his NHL, you can also believe that hep C played a role; and you still have to find for Mr. Hardeman.

On the other hand, if you conclude that Mr. Hardeman has not proven his exposure to Roundup was sufficient on its own to cause his NHL, then you must find for Monsanto. So if we didn't --

MR. STEKLOFF: Your Honor, I --

THE COURT: Yes, please. Yes, we can have a sidebar.

MS. WAGSTAFF: I was just reading the --

(The following proceedings were heard at the sidebar:)

[redacted]

[redacted]

CLOSING ARGUMENT

(Proceedings were heard in the presence of the jury:)

THE COURT: Ladies and gentlemen of the jury, I will just remind you, the argument from the lawyers is not evidence. I'm going to instruct you, however, to disregard the last two sentences.

And I will let you know that we have spent a lot of time with both lawyers laying clear ground rules for the arguments that they can make and -- the arguments that they can make in the effort -- the point is to try not to interrupt the arguments while they are going and to establish the ground rules in advance. We have spent a lot of time doing that, and both lawyers have been instructed very clearly about what they can argue and what they can't argue. So I apologize in advance if there needs to be further interruptions.

MS. WAGSTAFF: So going back to my slide, if you conclude that Mr. Hardeman has proven that his causative exposure to Roundup was sufficient on its own to cause his

non-Hodgkin's lymphoma -- that is the preponderance of the evidence that I was telling you about -- then you must find for Mr. Hardeman, even if you believe that other factors were also sufficient on their own to cause his NHL.

On the other hand, if you conclude that Mr. Hardeman has not proven that his exposure to Roundup was sufficient on its own to cause his NHL, then you find for Monsanto.

Now, this is a slide I showed you-all in the opening. And I wanted to give you pieces of the puzzle, and we wanted to present the entire set of evidence to you guys.

And before I move on from the jury instruction, let me say this: We need all six votes. Mr. Hardeman needs all of your votes. So I'm going to spend the next hour giving you information to help you come to the conclusion that Mr. Hardeman has met his burden. And if there are people in there that need reminders of this, please take good notes and help fight for Mr. Hardeman back there.

The whole picture. The first one was: What is Roundup. You remember during my opening statement I asked you these three questions. This is actually from my opening statement. What is Roundup? Roundup, if you will remember, is glyphosate, surfactants and some other ingredients. Remember I told you that glyphosate and Roundup are not the same thing.

You heard testimony from Dr. Weisenburger when he was discussing his study where he said, So in this study, Roundup

is actually 100 times more toxic than glyphosate. That is an important fact to remember.

Those are two important pieces to take with you back to deliberation.

Different witnesses came in and you heard from different witnesses. From Monsanto you heard from three witnesses. And I actually wrote this down. You heard from Dr. Mucci. You heard from Dr. Levine. And you heard from Dr. Arber.

Dr. Mucci testified that she had never viewed or studied Roundup or glyphosate prior to Monsanto calling her. Dr. Levine testified that this wasn't her specialty. She didn't even know if Roundup was a pesticide. Dr. Arber testified that he did not consider himself an expert as to whether or not glyphosate can cause NHL. Those are the three experts that Monsanto brought to you.

You will remember yesterday -- so we get transcripts at the end of every day of everything that was said in court. So when I have some of these on, these are actual quotes from testimony yesterday -- so what Dr. Levine said yesterday when Ms. Moore was asking her questions: If the jury finds that Roundup is a risk factor for non-Hodgkin's lymphoma, your list of risk factors would be incomplete. Because you remember she didn't include Roundup on her risk factors.

Her answer: If the jury said the Roundup was the cause and my list did not have it, then my list would be incomplete.

As it related to what the jury said, yes.

So let's see if her list is incomplete.

Who came to testify? You will remember, it seems like a long time ago, but we brought in Dr. Ritz. We brought in Dr. Portier from Australia and we brought in Dr. Weisenburger. This is as to general causation, which is a legal term that probably hopefully you don't ever have to worry about what that means, but it is whether Roundup can cause cancer, which is a different question than whether or not Roundup caused Mr. Hardeman's cancer. All right?

So the only person they brought in to testify whether or not Roundup can cause cancer was Dr. Mucci; whereas, Plaintiffs brought in Dr. Ritz, Dr. Portier and Dr. Weisenburger.

So if you will remember Dr. Ritz, she was our first witness. She is an expert in environmental epidemiology. In fact, she is the president of the International Society for Environmental Epidemiology. And she testified that experts in environmental epidemiology are trying to figure out what exposures are. She said they are trying to figure out how large they are, how they can measure them, and how you can measure them over a large period of time. Dr. Ritz has spent her life's work considering exposures. She was appointed by the California governor to serve on the California Air Resources Board.

Next, we brought you Dr. Portier. He was the man who

testified from the big TV sitting right there. He was supposed to come live, and then we had to fly someone to Australia at the last minute for health reasons. He was the former director of the National Toxicology Program. He was the former associate director of the National Institute of Health. He is very qualified.

Next we brought you Dr. Weisenburger. And Dr. Weisenburger actually gave two opinions. Dr. Weisenburger gave an opinion can exposure to Roundup cause non-Hodgkin's lymphoma, and he gave the opinion did it cause Mr. Hardeman's non-Hodgkin's lymphoma.

So he is sort of a crossover witness. And Dr. Weisenburger, you heard testify, that he spent 40 years looking at causes of cancer. And, in fact, you have probably heard more about the epidemiology cases than you ever hoped to hear in your life, but he was the author of two of them.

So we went out and found the authors of people who are actually working in this field, publishing literature in this case about whether or not Roundup and glyphosate causes NHL.

Monsanto brought you one expert. This is straight from her testimony.

Until Monsanto calls you and asks you to serve as an expert witness for the company, you had never researched glyphosate right?

No, I had not.

Until Monsanto called you to serve as an expert witness, you had never researched Roundup, right?

That's correct.

And, in fact, until that phone call, you had never investigated any pesticide, correct?

I had not done my own research on pesticides.

So we have told you -- and you have heard a lot -- about the three pillars of cancer science. There is mechanistic data. There is animal data. And there is epidemiology. And we think that you need all three of those pillars to see the whole picture.

So you have the animal data. You have the mechanistic data, and the epidemiology of looking at people who actually use the chemicals in the real world. And you need all three of those to understand the actual causation.

So what did each of the experts consider? Plaintiff's experts considered all three. You heard testimony from Dr. Ritz, Dr. Portier, and Dr. Weisenburger. All three of them read the animal studies. All three of them read the mechanistic studies. And all three of them read the epidemiological studies. And their opinions -- their opinion that exposure to Roundup can cause cancer at real-world exposures is based on analysis of all three of those bodies of science.

Meanwhile, Dr. Mucci, who never studied pesticides before, looked only at the epidemiological data. Monsanto is asking you to ignore the animal data, to ignore the mechanistic data.

And, in fact, Dr. Levine testified yesterday -- or maybe Friday, I can't remember -- that's improper. Their own expert said (reading):

"When you're practicing as an oncologist, do you agree that when you're trying to determine the cause of cancer, it would be important for you to consider all of the data before reaching any conclusion?

"Without any question at all," she said.

"And would you agree that it would be improper to ignore data when you're trying to determine the cause of someone's cancer?

"I agree."

But Dr. Mucci ignored the animal data and the mechanistic data.

Now, she had a book -- you recall we saw this book -- Dr. Mucci had written a book on cancer epidemiology, and in this book -- I flagged it -- there was something called the Bradford-Hill criteria. You can kind of see it on the screen, maybe it's a little small, but it says "The Hill criteria for inferring causation." This is a chart, you heard me ask Dr. Mucci about it, that she put in her book to infer

causation, and it lists a handful of factors. And it's been referred to throughout the trial as the Bradford-Hill test.

Each one of our experts, each one of Mr. Hardeman's experts did the Bradford-Hill. You saw Dr. Ritz actually did it in front of you. She wrote her answers down on the chart. So did Dr. Weisenburger, and Portier you saw it on video.

Despite putting in her book that this is a way to infer causation and despite being hired to determine if something caused cancer, Dr. Mucci didn't do one. She didn't bother to do a Bradford-Hill test.

Now, what does the evidence say? When you look at all three pillars, the evidence is overwhelming that there is a dose-response. So what does that mean? It means the risk of getting non-Hodgkin's lymphoma increases the more you use Roundup.

I think you heard Dr. Ritz refer to, in a different setting, that the dose makes the poison, and that's true here. The dose makes the poison. The more you use, the higher the risk, and that's true across all three pillars.

So let's run really quickly through the animal data. What did the animal data show? I summarized the key points from the animal data. Dose-response, biological plausibility, and malignant lymphomas.

All right. We had these two charts, and I was showing these to somebody recently, and I don't know if I did a very

good job of explaining what they were to you in opening.

That's good enough.

So, Your Honor, do you want me to --

THE COURT: No. You're fine.

MS. WAGSTAFF: Okay.

So I wanted to just show them to you again. They're really close to you right now. Sorry about that.

But what these are is there's two types of animals; right? There's rats and there's mice. And so what these are -- they're studied in the relevant studies. So what these are, these are different studies.

So you know in epidemiology you've heard about De Roos and Eriksson and NAPP and all those studies. These are all studies. So Lankas 1981 is actually a study. Stout and Ruecker 1990 is actually a study. Atkinson is a study, and so on and so forth.

And these are the tumors that were found in that study. Okay? And the color coding means that like, for example, this thyroid -- I'll pick a different one -- this pancreatic inlet cell tumors was found in both of these studies. Okay? So it shows replication; right?

And so what's important when you're looking at animal studies are the following things that are on your screen. Dose-response. When people look to tell whether or not the animal studies show a finding, they look at these things.

Dose-response.

They look at rare tumors. You're going to hear that these are rare tumors. These kidney carcinomas are adenomas. You've heard from Dr. Portier those are rare tumors. So they were found three times in three different mice studies and in one rat study.

So you now have replication across species and you have a rare tumor. And actually you can't tell, but this (indicating) is gray and these three (indicating) are gray. It doesn't really show, but that means it's a different strain of mice. So these (indicating) are all one strain of mice and then this one (indicating) is different. So you actually have it across strains of mice and you have it across species.

Replication. You see replication all over the board. You see replication here (indicating). And you heard Dr. Weisenburger testify that this was actually the tumor that Mr. Hardeman had, the malignant lymphoma. So you see it.

And this is a study that Monsanto conducted itself, and we'll talk a little bit about the Knezevich and Hogan study, but these are all the tumors found.

So I talked about those very rare tumors that were found. This is actually another lymphoma that was found. So there's actually a lymphoma found in every single mouse study.

This is evidence you heard from all of our experts, from all of Mr. Hardeman's experts, that glyphosate causes lymphoma

in mammals.

Now, to be fair, this is just glyphosate, but the reason you heard from Dr. Portier that you do these tests is for biological plausibility. You heard that you do these tests to see is it possible biologically that they can happen in animals and then it replicates over to humans. That's the purpose of doing animal studies.

So then there was this one right here (indicating), this Knezevich and Hogan study. And I talked to you a little bit about that -- or you heard a little bit about that from Monsanto's employee Dr. Reeves. It came by video. And I stood up there and I told you that this is -- we're calling Monsanto via testimony of Dr. Reeves.

And the Knezevich and Hogan study is an interesting study that I just want to spend a few minutes talking about. I won't spend very much time.

So in Knezevich and Hogan, you can see this was the very first mouse study that really dealt with whether or not glyphosate could cause non-Hodgkin's lymphoma -- or, I'm sorry -- could cause tumors. Not non-Hodgkin's lymphoma. Can cause tumors. Okay?

And so what happens -- and I've got a timeline on your screen that you can follow along if you like -- in 1985 the EPA reviewed the Knezevich and Hogan studies -- okay? -- and they found that the results from this study suggested that they

should define it as a Category C oncogene, which is a possible carcinogen. This was back in 1985.

And so they determined that, and so what happened was -- they decided that on February 11th, 1985.

And, actually, these -- I probably should have told you this earlier. When you go back to the jury room to deliberate, I don't know if it's going to be white, but you're going to get a binder of exhibits. Okay? And in the exhibits -- in this book is going to be certain exhibits -- this is actually my copy of it -- that the parties have admitted it into evidence. You probably remember us saying "Put this in evidence." And so some of these documents are going to be in evidence. Okay?

And so the documents on the screen that we're talking about, this is actually Trial Exhibit Number 505, and this shows you that on February 11th, 1985, that the EPA toxicology branch personnel met to discuss the data on glyphosate. Again, this is Exhibit 505. You'll have this back there with you.

And what they found is what I just told you. They found in accordance with EPA-proposed guidelines, the panel has classified glyphosate as a Category C oncogene.

And what they found was, they found -- remember you heard testimony there's a control group, a low-dose group, a medium group, and a high group. And so what they originally found that turned it into a Category 3 oncogene was 0013, which means no tumors in the control group, no tumors in the low-dose

group, one in the medium group, and three in the high-dose group. Dose-response, significant dose-response made the EPA categorize it as a possible oncogene.

So Monsanto met with the EPA to see what they could do, and this is Exhibit 506 in your book right here that I'm telling you about right now. You can see the meeting was relaxed, informal, and open. And the EPA was telling them about their concerns of the significant rare tumors.

Remember I told you this was a rare tumor? EPA was concerned just about finding one. At this point these hadn't come in yet. It hadn't come in yet because it's '97, '97, 2001. This is a document from '85 so they were concerned with just finding one of them.

And so FJ, who you'll remember from the testimony is actually a Monsanto employee, said (reading):

> "Short of finding a new study" -- "Short of a new study or finding tumors in the control groups, what can we do to get this thing off Category C?"

And you heard testimony from Mr. Reeves that a Category C was not a good thing for Monsanto. It was not a good thing for glyphosate. So short of a new study or finding tumors in the control group, what could we do?

And this is the slide I just told you. So they said they could find a tumor in the control group. You saw what happened. I'd like to do that again. If you find a tumor in

the control group and you take it from zero to one, you see what happens to the line, which makes it no longer highly significant. Just that one tumor changes so much.

So Monsanto hired Dr. Marvin Kuschner. And this is Exhibit 508. And on April 3rd, 1985, they're writing internal e-mails saying that Dr. Marvin Kuschner will review the kidney sections and present his evaluation of them to the EPA in an effort to persuade the agency that the observed tumors are not related to glyphosate.

So on April 3rd they hired Dr. Kuschner to persuade the agency. The problem is they didn't send the slides to Dr. Kuschner -- and this is Exhibit 509 -- until that same day, and Dr. Kuschner didn't receive the slides until 11 days later.

Well, don't you know, those predetermined results, he found a magic tumor. A tumor magically appeared in the control group. And he submitted his report finding the tumor to the EPA. And this is Exhibit 514 that you're going to have back there with you.

And the EPA is unpersuaded -- and I'll let you read this when you're deliberating -- the EPA is unpersuaded. And the EPA, in fact, convenes a panel, and what they decide is that after consideration of the expert opinion of the SAP, which is the Scientific Advisory Panel, and we considered all relevant data for this compound in particular, the statistical assessment provided by the SAP, the agency agrees that

available data are not sufficient to adequately address the question of whether the apparent effects noted in the mouse study are biologically relevant.

So they asked Monsanto to redo the study. That study has never been redone. And since that time, every mouse study that's happened, every mouse study has found a tumor that Mr. Hardeman has.

Again, coming over to the rat study just talking about how rare they are, replication across species. You can see on my slide you've got this is across species (indicating). We've got across -- I'm sorry -- that's across strains. Again, evidence that glyphosate causes tumors in rats.

So what does the animal data provide? It proves there's dose-response, it proves biological plausibility, and it proves that glyphosate causes Mr. Hardeman's cancer in animals.

And who did Monsanto bring to dispute the animal data? Who did they bring? Who did they bring to say we were wrong? No one. No one.

Monsanto's response to the animal data, not important, not relevant. They'll tell you they were fed too much glyphosate. They'll tell you all that -- they'll tell you all these other reasons why you shouldn't consider it, but their position is clear. They want you to ignore the animal data. Don't do it.

Coming back to here, dose makes the poison. Again, looking now at the mechanistic data. You remember Dr. Portier

on TV and Dr. Weisenburger on the stand talked a lot about the mechanistic data. This is related to genotoxic, oxidative stress. You remember those words.

What does the mechanistic data prove? What does it prove that we showed you? It proves again there's a dose-response. That is a theme throughout all of the pillars. The dose makes the poison. Dose-response.

Mechanistic data showed you that Roundup and glyphosate damage the cell, which leads to cancer. Roundup and glyphosate damage the cell.

The mechanistic data shows you that it induces oxidative stress. It causes oxidative stress, which also leads to cancer.

The evidence shows you it's genotoxic and it's oxidative stress, and the more you get it, the more likely that will happen.

We looked at data in vivo and in vitro. Dr. Portier walked you through these slides, which I won't walk you through, but he told you how a normal cell gets to cancer and the mechanism by which that happens; and he explained the DNA damage and how -- the cellular replication without DNA repair and how it finally eventually leads to uncontrolled growth in mutated cells. And then he showed you all the different times when a chemical could damage during that process.

And Dr. Portier walked you through some of these problems

that can happen with the mechanistic data. He told you about a single-strand break, and he showed you this graphic, and talked to you about a double-strand break and a mismatch. And I remember that testimony very clearly, and he talked about a hundred different studies that relate to the mechanistic data. A hundred different studies he said, both with Roundup and with glyphosate, both in humans and in petri dish, both in mammals and in nonmammals.

Remember the study about Paz-y-Miño when they had the plane and they were, like, flying over and they were spraying Roundup to kill coca plants, to kill cocaine plants? I think it was in a South American country. And they looked at the blood of the villagers and they compared it to the blood of the nearby villagers, and they realized there's significant damage to the people exposed to Roundup. Do you remember that study? The villagers that were exposed to the formulation had significant genetic damage in their blood.

Then you remember the Bolognesi study? This took blood of people before and after they sprayed. So this was when they actually knew, "Okay, we're going to spray on this particular date, so let's get ahead of the game and let's take their blood before spraying and then let's take their blood after." So it's actually the same group of people; whereas, the previous study, they looked at the people who got sprayed versus a community down the way. This actually looked at the same group

of people. The results? Exposure to glyphosate formulations cause genetic damage. Cause genetic damage.

And you remember that Dr. Portier walked you through these charts. This is a clean chart. It's a very pretty chart. And then here's the one that he wrote on. But you see all of the pluses are the studies that show genetic damage in vitro. And he put an "L," if you'll remember, for lymphocytes. The little "L" on the left shows that it causes it in human lymphocytes. Positive. Positive. Positive. Positive. Positive. There's not one study in there that's totally negative.

And we said, Okay. That's fair. Let's look at recent genotox data. Let's look what's happened in the last three years -- two years. All right? So then he looked at what's happened recently. Again, positive. Positive. Positive. Positive. Positive. Almost all positive.

It happens in the blood. It happens in the blood. It happens in the lymphocytes. This is what happens when people are exposed to glyphosate.

And the conclusion Dr. Portier told you is that glyphosate and Roundup cause genetic damage in human lymphocytes. The data is right there.

And if you weren't convinced, then you looked at oxidative stress, and this is what he told you about oxidative stress. Positive. Positive. Positive. Positive. And, again, these were testing glyphosate and the formulation; right? The "ND"

means that they only tested one or the other, but a lot of these tests were looking at both.

And you can look at Chaufan as an example. Negative in glyphosate but positive in the formulation. Everything else is positive. Genetic damage from exposure to Roundup -- or to glyphosate in the formulation.

So, again, the mechanistic data shows us the more you get, the more dangerous it is, and it is genotoxic and that it causes oxidative stress. And who did Monsanto bring to dispute the mechanistic data? Nobody. Nobody. They didn't bring anyone to tell you that that's not true.

Now, why? Why do you think that is? And I'll leave that for you to decide. But, remember, that they hired someone, Monsanto hired someone in 1999 to study this exact thing, to analyze the data on genetic toxicology related to glyphosate and glyphosate formulations. They hired someone. They knew this was an important thing to consider so they hired someone to look at it, and he published a report and he gave it to Monsanto.

And you heard Dr. Portier testify about that because unfortunately Dr. Parry is no longer with us, so you heard Dr. Portier testify about that. And what Dr. Parry told Monsanto in 1999 is that there is a strong evidence that glyphosate may be genotoxic. 1999.

And then you heard Dr. Portier say, we asked him, we said

(reading):

"Since 1999 and after Dr. Parry made those recommendations, what has the data shown about the genotoxic effects or potentials of glyphosate?"

Dr. Portier said it has strengthened since the time he looked at this. And you saw that. You just saw the recent genotox data that has come out since Dr. Parry told him that.

So I ask: Why didn't Monsanto bring someone to refute the genotox data?

Monsanto's response? Ignore. Not important. Don't consider it. You've got to wonder why did they hire someone in 1999 to study this if it's now not important.

The mechanistic data, the next piece. Again, in epidemiology it's a theme here. We're also seeing that the more you use it, there's a dose-response. We see a statistical significance. You guys heard a lot about the phrase of statistical significance and what is statistically significant, and what's not statistically significant, you know, and what is doubling the risk and what's not doubling, and what was adjusted and what's not adjusted.

But the point is that almost all of the epidemiology shows an elevated risk. Some is statistically significant, some is not. We can argue why that is. We'd probably have differing opinions with Monsanto that we'll never reconcile, but the point is almost all of them show an elevated risk except for

one, the Agricultural Health Study. And guess which one they have hinged their defense on? The AHS.

And the AHS actually shows a protective effect. So if you believe the results of the AHS, if you believe that's a good study, then you have to believe that Roundup protects us, that being exposed to Roundup is a protective effect. Dr. Ritz testified about that. And also the cancer is always non-Hodgkin's lymphoma. The epidemiology shows you that.

So I'd like to take just one moment if we could talk about Dr. Ritz's chart. So I'd like to bring you back. This was the first day. So this was about two weeks ago, a little over two weeks ago.

Dr. Ritz and I walked through this chart. I hope the memories aren't too painful, but we walked through each one and we talked about every single case. We gave a little description about every single case, and we talked about whether or not something was adjusted, whether or not something was statistically significant, whether or not something showed a dose-response or not.

So the important thing is that we have these dose-response cases. We have all of this data. Okay? And as you see, every single one, every single number is over a 1. This is the one that shows no effect. Remember? This is the one the people were in the hospital, and I think both sides sort of agree that this is not a great study.

1.22, .8, 1.98. These right here (indicating) show protective. And then you get down here, .7, .9, .6, .8, .83, .83, .88, .87, protective effect.

You have the North American Pooled Project. We brought you the author of the North American Pooled Project. He testified dose-response. He testified that it was adjusted. He testified that it was statistically significant.

We brought you the author, the same guy, Dr. Weisenburger, we brought you the author of this study (indicating). Dr. Weisenburger pooled analysis 2.1, 1.6, statistically significant, adjusted for 47 pesticides. That's who we brought you.

We showed you these charts that you'll show on your screen. I'm not going to pull them up for you, but we analyzed the data for you in a different way. We analyzed the data for you so that you could see all of the dots on that blue -- the vertical blue line is 1, and so you could see all of the dots. If it's to the right of the line, it shows an elevated risk. All of the dots show an elevated risk, almost. Those are the dose-response ones (indicating).

And then we showed you McDuffie with dose-response right here (indicating). I think you heard all of our experts testify that they studied a dose-response in this case, which was a Canadian case, and the authors split people up. Because, remember, you have the never/ever cases. A lot of these case

controls say "Have you ever used glyphosate?" You say, "Yeah." So they say, "Okay. Go over here." And they don't ask you how often you've done it; right? So that's called never/ever.

But a couple of these, a handful of these actually looked at dose-response. They made an attempt to say, "Okay. Let's split it up. The people who actually use it more go this way and the people who actually use it less go here," and they made categories based on your dose.

And so in McDuffie what they did is they also did a dose-response, and they put the higher category people in one group and the lower user -- the lower -- the people that used it less in a different group. And what they found when they did that was a doubling of the risk that was statistically significant. So you've got here a dose-response, doubling of the risk, statistically significant. That's one time that happens.

Another time it happens is when you come down here to Eriksson. All right? And we walked through all this with you as well. They also attempted to say, "Okay. Let's not -- let's go beyond the analysis of did you use it or did you not use it. Let's actually say, okay, let's try to make some sort of stratification and put the higher user people in one group and the lower user people in one group."

And so what they did is they did the same thing and, lo and behold, they also found a 2.36, which is a 236 percent

increased risk, statistically significant dose-response. So the two studies that looked at it, they found that the higher group users had a statistically significant dose-response.

They also found -- this study had a unique aspect to it, and Dr. Ritz talked about it. It was the latency aspect of it. And so what Dr. Ritz said is that if it's been 10 years at least since you used Roundup, so sort of had time to work on your body, if it's been at least 10 years and you fit into the exposure categories of what this study was analyzing, you have a 2.26 odds ratio, a 226 percent chance of increased risk if you use it 10-plus years. It's statistically significant. So this Eriksson study actually gives you a lot of information. So we've got two dose-responses.

And then the third one to look at dose-response was the North American Pooled Project, and they also found that. They also did the higher dose and the lower dose, and they found a 1.98 statistically significant adjusted. Up here (indicating) are the low. This is sort of written differently because I was running out of room at the time, but this is the higher dose group down here (indicating).

So what the North American Pooled Project did, they found for DLBCL, which you've heard is the type of cancer Mr. Hardeman had, this study found a 2.49 risk, so almost a two and a half risk increase, statistically significant if you're in the higher dose group.

For general non-Hodgkin's lymphoma, they found a 1.98, which is almost a double -- almost a doubling of the risk, statistically significant.

And these are adjusted. You're going to hear a lot about, "Well, it's adjusted. It's not adjusted." These are adjusted. That's the information we showed you.

And then last month the Zhang article came out, and the Zhang article was a meta-analysis. So you heard a little bit about that, and what a meta-analysis does is they take a handful of these and they put them together and they analyze the results from that.

So just last month, I think it was February 5th, I might be wrong on the day, but I think it was February 5th, 2019, the Zhang article came out. And I'll tell you -- and they found a compelling link. The Zhang article, actually the authors there looked at all three pillars, and I'll show you in a minute what they actually looked at; but they put in their conclusion that the Zhang scientists looked at the mechanistic data, they looked at the animal data, and they compared it to this data, and what they found was a compelling link. Again, talking not about dose but another study, the doubling of the risk.

So here's actually the conclusion from the Zhang authors because I want to make sure I say it right to you-all. This was taken from their study (reading):

"Overall, in accordance with evidence from

experimental animal and mechanistic studies" -- right? Animals and mechanistic -- "our current meta-analysis of human epidemiological studies suggests a compelling link between exposure to glyphosate-based herbicides" -- which Roundup is a glyphosate-based herbicide -- "and increased risk for NHL."

That's just last month.

Monsanto's response to the epidemiological data (reading):

"Find a way to ignore all the data except for the AHS."

So how did they do that? They brought in Dr. Mucci. And I've already told you a little bit about her experience with pesticides prior to coming here to testify to you guys.

Ms. Melen, could I have the Elmo, please?

And Dr. Mucci put up this chart. This is a chart she chose to use in her direct examination, and this chart asks you to ignore data unless it's properly adjusted for other pesticides and statistically significant. Properly adjusted for other pesticides and statistically significant.

So using her analysis, let's see, she wants you to ignore all of this (indicating). She would like you to ignore that (indicating). She's asking you to ignore that (indicating). Ignore (indicating). Ignore (indicating). Ignore (indicating). There's a lot here so I don't know if I have enough "ignore" stickers.

Well, she didn't really talk about the NAPP. She actually didn't, to be fair, say that we should ignore that, but that's what Dr. Mucci is asking you to do with this chart.

And then she talks a little bit about the De Roos 2003 paper, and she gets into a little bit about why you should ignore this study. And if you remember, there was two sort of -- her and I were going back and forth and battling a little bit about, you know, one set of data -- if I pull these stickers off for De Roos 2003, one set of data is 2.1, which if you were to look at 2.1 with a statistically significant adjusted, it should fit in her chart. If you were to look at this number right here (indicating), it should fit in her chart; but she's asking you to ignore that one because she says that it's not fully adjusted, even though you heard from Dr. Weisenburger, who was an expert witness in this case, that that was a proper analysis.

And she's asking you to instead consider this number 1.6, .9, 2.8. And the reason why is because this .9 means that this much (indicating) makes it not statistically significant. So these numbers fit her narrative (indicating). These numbers do not (indicating). So she's asking you to ignore them.

Ms. Melen, I'm done with that.

And I ask you, do not ignore this data. This is important data. And, in fact, Dr. Mucci testified to the importance of looking across science and breaking down the silos was her word

that she said. People are working across disciplines together. But when she comes here and testifies in this court, she doesn't consider all the data. She didn't consider the tumor table. She didn't consider the mechanistic data, and she's asking you to ignore all of this data despite saying over and over again when I was asking her questions or when Monsanto's lawyer was asking her questions that you can't ignore data, you can't ignore data, you shouldn't ignore data, ignoring data is bad.

And then comes the Agricultural Health Study. So the Agricultural Health Study doesn't show an association between non-Hodgkin's lymphoma and glyphosate. That is true. That is what -- that is the results of the study, but it doesn't do that because it can't. It is so flawed from its fiber, from the fabric of the study it's so flawed that it is impossible for the study to show any positive results. The exposure misclassification is fatal on its face. It will never be able to show an association between non-Hodgkin's lymphoma and glyphosate.

You saw Dr. Ritz's AHS exposure problems. You saw -- I typed them up there on the screen, I'm not really quite sure why I did it because they're still written here, but she walked you through all these problems.

You'll remember that people in North Carolina and Iowa were coming in to get their applicator license, and they were

taking a test and then they were asked to come over here and fill out this questionnaire that will take about a half an hour.

And you heard her talk about the initial baseline problems, the exposure misclassification that's created by that alone, the fact that people don't remember, the fact that people on the spot cannot remember the exposure they had decades past. They can't remember the exposure "Did I use glyphosate? Or, wait, was that some other chemical? Or, wait, did I use it two times a month or was it one time a month? Or, wait, did I use it for six months? Or did I use it in 1975 or was it 1978?" And they were asked on the spot right then and there to fill it out. And she testified how that creates major problems.

And, yes, a lot of studies are done by questionnaires, but a lot of the questionnaires are sent to people at home and they're given the option to fill them out or they're given the opportunity to talk to other people or consult records. These were people who were handed questionnaires and they had to fill it out there right on the spot, and that creates an initial baseline problem.

Next she talked about -- you remember the little graph we had with the cell phone use and she talked about Farmer Ted? She told you about the fact that the glyphosate -- so AHS studied 50 pesticides. That's another problem with it that

we'll talk about in a minute.

But with respect to glyphosate alone, because it's really important that our experts all talked about the AHS and they had general criticisms about the AHS, but then they also had ones that were specific to glyphosate. Okay? So this one, in the middle of the study glyphosate takes a spike; right? And people who were classified before are always classified that way throughout. There are other opportunities where they could change their classification, but the reliability of those methods Dr. Ritz told you just aren't really there; right?

And then when they finally did get ahold of other people -- when they realized -- the investigators realized, "Okay, we've got some problems with this exposure," when they finally did get ahold of them, the only thing they said is, "What have you been doing the last year? What have you been doing the last year?" Even though they maybe didn't talk to them for 10 years; right?

So what if they quit using glyphosate so they're -- in the last year they said, "Oh, I haven't sprayed glyphosate -- I haven't sprayed Roundup in the last year, but that's because I sprayed it, you know, every single day for nine years, well, they would be labeled as a nonuser because it's what did you do the last year.

And Dr. Ritz testified how when you couple these on top of each other, it just starts to be insurmountable. And then she

talked about how 37 percent of the people just poof, they couldn't find them. Lost them in the follow-up.

And so they made up this information, granted it was an educated guess, but they made up this information and there were problems with it. And it's this problem on top of this problem on top of this problem. It just gets to be too much. Maybe this study could have handled one of those problems, but all of these problems they cannot handle.

And there were articles Dr. Ritz told you about where, you know, they hired some people from Harvard to look at it in 2000 and those doctors found nondifferential exposure misclassification will produce bias towards the null. The null is that blue line.

So exposure misclassification will produce bias towards the null. It doesn't say may. It doesn't say it might. It says it will produce bias towards the null.

And then it talks about in that study (reading):

"Misclassification will reduce the power of the study to detect any genuine cause-and-effect relationships and will reduce the validity of the findings."

That was in 2000.

Now, remember, only two studies have come out from the AHS related to glyphosate and Roundup. Remember, only two. You've heard from lots of experts that this study has produced hundreds, I think the number is 250, but only two relate to

glyphosate and Roundup. That came out in 2005 and last year. So this 2000 study was before any results were known about glyphosate or Roundup.

We'll get to the Acquavella one in a minute, but then another one came out in 2010 (reading):

> "Exposure misclassification undoubtedly had an impact on the AHS findings reported to date."

Undoubtedly had an impact, and that makes sense; right? All those problems I talked to you about.

And then Blair in 2011, it says (reading):

> "Pesticide misclassification may diminish risk estimates to such an extent that no association is obvious, which indicates false negative findings might be common."

False negative findings might be common. That was in 2011 after these results came out.

And then we have the Sheppard group this year saying something very similar.

And Monsanto knew this. Monsanto knew that the AHS had serious problems.

You heard -- and this is Trial Exhibit 100. Where's the black one? Trial Exhibit 100. I want you to read that one. This is a letter -- or an e-mail from John Acquavella, and you heard deposition testimony about this. John Acquavella wrote a memo in 1997. He is Monsanto's epidemiologist. In fact, he's

Monsanto's only epidemiologist they've ever hired. And he said, and this is a quote (reading):

"The exposure assessment in the AHS will be," he said, "inaccurate... Inaccurate exposure classifications can produce spurious results... In a study of this size" -- because remember, it's a big study -- "there will some, perhaps many, spurious exposure-disease findings due to exposure misclassification."

So, once again, in 1997, that's what they're saying.

He continues on to say (reading):

"Most of the diseases to be studied in the AHS have scant reasoning to link them to pesticide exposure. Thus, much of the research can be termed 'exploratory.' That's not unusual in epidemiology, but it's unusual here because it's so big."

This is 1997. Then he goes on to say (reading):

"Exploratory research yields uncertain findings" -- uncertain findings -- "at the very least cast doubt on the safety of products."

So he's saying exploratory research could cast doubt on the safety of Roundup. (reading)

"This energizes pesticide opponents, may cause the public to dictate a market change, and typically makes the manufacturer adopt a defensive stance."

That's Exhibit 100. Please read it.

Next you have two years later Donna Farmer. This is in 1999, again before any results came out. She's talking about the AHS. And this is Exhibit 454. You won't forget what this one looks like. It's all black almost, but this is related to the AHS. It doesn't -- we blacked out the part that says the AHS, but this is related to the AHS, and you heard testimony about it.

And what Donna Farmer says, who was a toxicologist at Monsanto and still works there today, what she said 20 years ago (reading):

> "Groups have been highly critical of the study calling it a flawed study" -- flawed study -- "In fact, some have gone so far as to call it junk science. It is small in scope" -- that's what they're saying in 1999 -- "and the retrospective questionnaire on pesticide usage and self-reported diagnoses also from the questionnaire is thought to be unreliable."

Unreliable. And this is what I'm just talking about right here. This is what they're saying in 1999. They're agreeing with me in 1999. (reading)

> "The bottom line is scary. There will be associations identified" -- that was the first one I forgot to be on -- "There will be associations identified between glyphosate use and some health effects just because of the way the study is designed."

So this is in 1999. So what's changed between 1999 and today? Well, today Monsanto now knows the results of the AHS data, today Mr. Hardeman has filed a lawsuit against Monsanto, and today Monsanto's position on the reliability and accuracy of the AHS is different.

In fact, you heard testimony that their litigation position is now (reading):

"What's your understanding of your role?

"I'm here as a representative to represent Monsanto and speak on their behalf."

We asked him his position on the AHS. Today, despite all these problems, their litigation position is that the AHS is the most comprehensive study and the only thing you should consider.

And you heard something on the International Agency Research On Cancer, and they are an arm of the World Health Organization, and in 2015 they got together and they assessed the carcinogenicity of certain pesticides and chemicals, and what they found was glyphosate was a Class 2A probable human carcinogen in 2015.

So what Monsanto wants you to do is they want you to ignore all the animal data in total. They want you to ignore all the mechanistic data in total. They want you to ignore all of this up here (indicating), the case controls, and they want you to ignore everything they said about the AHS prior to

today.

And don't be mistaken. All of our experts considered the AHS. You've heard them all talk about it. I think all the people who came and testified have considered the AHS.

And so what's the result of ignoring data if you do everything that Monsanto is asking you to do? You come in and you say, "There's no evidence. There's no evidence that glyphosate or glyphosate-based formulations cause cancer under the conditions that people are exposed to."

This is a Monsanto spokesman whose deposition we took on January 23rd, which is about a month and a half ago. We played it for you. This is Monsanto's position. No evidence.

Dr. Mucci came in. No evidence of a causal relationship between Roundup and NHL. No evidence.

The result of considering all of the data? That can be shown by the folks who just looked at something a month ago. When you look at the mechanistic data, the animal data, and the epidemiological data, it's a compelling link.

And so what does the Epi provide? It shows us dose-response, statistical significance, elevated risk, and specificity.

And so those are our pieces of the puzzle that I want you to take back with you when you deliberate on whether or not exposure to Roundup can cause cancer. Each one is so important. Do not ignore any of them and do not ignore the

data that Monsanto is asking you to ignore.

So now let's talk a few minutes about whether exposure -- whether Mr. Hardeman's exposure was a substantial factor in causing his non-Hodgkin's lymphoma. And I think you've heard from several people today the fact that he has non-Hodgkin's lymphoma is undisputed. The fact that he has DLBCL, undisputed.

And so when you look at all of this, I think I've told you the dose-response, so you need to -- because the dose-response was so important -- can you hand me the --

So you saw Mr. Hardeman come in and testify. I've actually never -- and he told you that he would go out there and for 26 years, 26 years he would go out there and he would spray and he would spray up, and he would walk down the street and he would spray down. He lived on two different properties. He would spray -- he testified that he would start in May, go all the way through the summer. Sometimes he said -- that's his actual quote there -- he would stop in November, three to four hours spraying at a time, 56-acre property.

And he showed you how he did it. He showed you he would fill this up. He told you how he bought concentrate because he thought he could get more bang for his buck because he thought he could spread it out more, and he would pour concentrate in here, put water on top. Sometimes it would foam out -- remember that testimony? -- and get on his hands.

He testified that when he would walk down the embankment, he testified he could somehow feel it spraying on his face. He testified that when he was behind his garage trying to get things out, sometimes he was in precarious places and he had a little hand squirter that he would feel getting all over his skin. He has heavy, heavy exposure, 26 years of heavy exposure.

And our expert, Mr. Hardeman's expert, Dr. Weisenburger, did an interview with Mr. Hardeman; right? I mean, if you're going to determine if something caused cancer, if you're going to look at whether or not Roundup caused cancer, don't you want to know how much Roundup they were exposed to?

So Dr. Weisenburger interviewed Mr. Hardeman, and he concluded -- this is a direct quote -- he concluded that (reading):

> "By his calculation, he sprayed over 300 times and used about almost 6,000 gallons of Roundup."

That's a lot of Roundup. Almost 6,000 gallons in 26 years.

These are pictures of his property you remember. These are going to be back in evidence with you too. I won't tell you the exhibit number because they're probably going to be obvious when you look at them, but this was the water -- I think that was what he testified to -- the water valve that he would have to get down and twist so he would have to spray to

get rid of the weeds.

And guess what? Monsanto's expert didn't even consider how much he sprayed because they only considered a portion of the epidemiological data. They viewed, well, not a risk factor so we're not even going to bother to see if he sprayed.

In fact, Ms. Moore asked Ms. Levine -- or Dr. Levine -- so Dr. Levine and Dr. Arber were the two experts Monsanto brought to talk about whether or not exposure actually caused Mr. Hardeman's cancer, and Ms. Moore asked Dr. Levine yesterday, quote (reading):

"It doesn't matter if it's 1 day or 10 days and that would be" --

I'm sorry. Ms. Moore said (reading):

"And your opinion is, as to what caused Mr. Hardeman's non-Hodgkin's lymphoma, would be the same whether Mr. Hardeman used Roundup for 1 day or 26 years; correct."

And Dr. Levine (reading):

"Absolutely. I don't believe it caused lymphoma. It doesn't matter if it's 1 day or 10 days."

And Ms. Moore said (reading):

"And the same would be true whether he used 1 gallon of Roundup or almost 6,000? It wouldn't matter to you?

"It doesn't matter to me."

They didn't even consider how much he used when making

these opinions.

Now, let's talk about his medical condition. You've heard a lot about his hep C.

Can you put up the differential diagnosis?

So you've heard a lot about hep C and some things that you need to remember. And this is Trial Exhibit 40 -- okay? -- Trial Exhibit 40 that you're going to have back there. And at Kaiser where Mr. Hardeman was treated they have this really cool feature where they let you communicate back and forth almost in like an e-mail style with the doctors. And so you'll see some communication back and forth between Mr. Hardeman and his actual doctor.

And he was treated for hep C by a doctor named Susan M. Ruffner-Statzer. So I just want to explain to you who that was in case that wasn't clear. But Dr. Ruffner treated Mr. Hardeman in 2006, and it's Dr. Ruffner's opinion -- or, I'm sorry -- it's what Dr. Ruffner tells Mr. Hardeman on March 10th of 2006, March 10th of 2006 (reading):

> "If the virus stays undetectable after six months of treatment" -- which would mean -- what's six months after three? September of '06 -- "you are likely cured." "Cured" in all caps. "We will continue to test your blood for the return of virus, but 95 percent of the time it stays gone. If it is still gone after five years, we will call you cured."

So if it's still gone in 2011, we will call you cured. Well, it's still gone today. It's still gone today. It is undisputed that he has not had one piece -- one test, one anything to suggest that the blood -- the NHL has come back in his blood. Nothing. Zero. Nothing. Sorry. That hep C has come back in his blood, not the NHL.

And then you heard from his treating oncologists, and you heard that he was diagnosed with Stage 3 aggressive cancer. Aggressive cancer meaning that it doesn't just -- the cancer doesn't just linger around for a while, it presents itself pretty quickly. And he went through three rounds of chemo, and that's important, and I'll tell you why in a minute.

When he showed up in 2005 or 2015 -- can I have the differential chart, please?

So hep C affects the liver; right? That's one of the things that it affects. And what's important to remember is the timeline. All right? He gets exposed -- or he gets -- he finds out in 2005 he has hepatitis C. All right? He immediately starts treatment. He starts poking himself with a shot and it's gone.

And I just showed you the letter from Dr. Ruffner where she says it's likely cured, 95 percent cured; after five years, it is cured. Okay?

Now, if you look down at your screen, this is Trial Exhibit 45, and this is really important because this speaks

volumes with these three little words. Trial Exhibit 45 says "Liver reserve excellent."

Why is that important? That's important because when he shows up to get non-Hodgkin's lymphoma treatment in 2015, his liver reserve was excellent, which means that the hepatitis C was not hiding down there causing damage to his liver, rolling around, doing this hit-and-run thing that Dr. Levine was talking about.

And so we brought in Dr. Weisenburger, who authored some of those papers, who has been studying the effect of pesticide exposure to non-Hodgkin's lymphoma since at least 2003. And I know it takes a couple years to get a paper published, so probably since, you know, 1999. And he's been discussing -- he's been researching causes of cancer for 40 years. (reading)

"Do you have any doubt as to your opinion that Roundup was a substantial factor in causing Mr. Hardeman's non-Hodgkin's lymphoma?

"No," he said. "No," he said, "no doubt."

And so Monsanto brings in Dr. Levine, and remember Dr. Levine did not consider Mr. Hardeman's exposure to Roundup. It made no difference if it was 1 day or 26 years, no difference if it was 1 gallon or 6,000 gallons.

Dr. Levine didn't look at the animal data. Dr. Levine didn't look at the mechanistic data. She's not here to give an opinion on any of that. She's not here to give an opinion on

whether or not it was genotoxic.

She reviewed the epidemiology data, and because of her review of the epidemiology data, she just didn't include it as a risk factor without considering the animal data, without considering the mechanistic data, without considering his actual exposure, all of that.

So let me talk to you about what Dr. Weisenburger did. So what Dr. Weisenburger did -- and there's a lot of discussion about nomenclature. You know, "differential diagnosis" isn't really a word we use, or is this a proper phrase, or whatever it is. I just want to explain to you what he did, and Dr. Levine testified that she did a very similar thing.

He put all the known risk factors over here (indicating) that are applicable to Mr. Hardeman. Okay? And then as he went through his analysis, he put the ones that actually applied to Mr. Hardeman right here (indicating), and we came down with four.

And I think that these were ruled out -- these down at the bottom were ruled out by all the parties, and these pretty much were too. Dr. Levine testified that age, sex, and race, while they may be risk factors, they aren't causal factors.

And remember that a risk factor is not the same thing as a causal factor. Now, I think that is really important when you guys go back there and talk about this.

So Dr. Weisenburger came up with four. And, remember,

Dr. Levine testified -- put those three up there. The only thing that's different is that Dr. Weisenburger had Roundup.

Dr. Levine has been paid by Monsanto. She only looked at half of the data, and she did not include Roundup.

Now, when we talk about obesity, both experts cross out that that was a causal factor. Maybe it's a risk factor. Maybe. Probably not, but maybe. Maybe it increased it, but nobody in this courtroom came in and told you that his non-Hodgkin's lymphoma was caused because he was obese. Nobody.

Hepatitis B and hepatitis C, I think -- I'm talking about -- so Dr. Levine had a hit-and-run theory. You guys remember that catchy little phrase, hit-and-run. I think what she was trying to say was that once the damage is done, it doesn't -- it can't be fixed; right?

And so when Ms. Moore was asking her (reading):

"Do you know" -- and this is a quote -- "Do you know if the hepatitis B, in fact, did any type of damage to his B-cell?

"I don't know that.

"So what -- you are about to tell me what evidence you have to support your theory that there is hit-and-run cells for hepatitis B.

"The data really -- the hit-and-run mechanism has not been published for hepatitis B.

"So you don't have any evidence to support your theory of this hit-and-run of hepatitis B?

"I can't say that."

I left out a sentence but it wasn't really relevant to what I was...

So I think the hepatitis B, Levine's -- oh, I'm being told to use a bigger one. Sorry.

Further you heard testimony that he was immune from hepatitis B. Additionally, he never had the active virus diagnosis. He had antibodies but never the active virus diagnosis. And Levine's testimony was maybe and then likely. That's what she said, don't be confused with the hepatitis B.

Then hepatitis C seems to be the one that Monsanto wants you to believe, but let's look at the facts of the case instead of these hypotheticals. They came in and they brought someone who is an expert on hepatitis C and non-Hodgkin's lymphoma. She's never done any work on pesticides, but she's an expert on non-Hodgkin's lymphoma and hepatitis C.

So remember the facts. The facts were that he was cured in '06 and he never had any -- he was a rapid responder. This is important. This means that his body reacted to the treatments. So while Dr. Ruffner said "In six months you'll be cured," he -- actually within 12 weeks of receiving it, his viral load plummeted to zero. To zero.

2006 to present, no hepatitis C. Abnormal cells gone.

They will die off. That's what Dr. Weisenburger testified to. He was immune for hep B in 2005.

And you'll remember, this was actually the chart that was used yesterday, and Ms. Moore when she was asking Dr. Levine questions, she said, "Do you agree? Can I check? Can I check?" So these are the checks from Dr. Levine.

Now, let's talk about the chemo that I talked about. I said three rounds earlier, but he actually went through six, six rounds. And what happens during chemotherapy is that your body, your immune system gets pulled way down. Okay? And so you heard a lot of testimony about what happened during Mr. Hardeman's chemotherapy, and this is really, really important.

And so this part right here (indicating) is when he was in chemotherapy. Okay? So the theory Monsanto wants you to believe is, "Oh, sure, he may have been cured -- he may have been cured in '06, but cured, she didn't mean cured. She meant like cured like there's still hep C there." So they want you to believe there's still hepatitis C swimming deep below in an undetectable level, some undetectable level that even Dr. Levine admitted she doesn't use in her practice and she's supposed to be one of the leading hep C experts but yet she doesn't use it.

So there's this undetectable level of hep C floating around in Mr. Hardeman's body somehow that nobody knows how to

detect it, and in fact it has never been detected in his body. Okay? So they want you to believe that.

The problem is, here's the problem with their story, and this makes sense. The problem is, is that during chemotherapy because your immune system gets so weakened, if there are any viruses in there, they will rear their head. And you've heard every expert who talked about that will tell you that. Even Dr. Levine told you that.

So what they did was they put Mr. Hardeman, when he went through chemotherapy, 11 years after, 9 years after being cured, they gave him pills for hep B, for hep B only, not for hep C. For hep B. They gave him pills so that the weakened immune system would not expose any hep B that was around. Nothing ever happened. It was sort of a nonevent. They did not give him any pills for hep C. None. Nothing. He received no treatment for hep C during the chemotherapy except for testing the blood, except for continued blood testing.

So he goes through a weakened immune system where when you go through chemotherapy, your body is shot. The whole point is to kill the cancer. I mean, your body, your immune system is very low, and he had six rounds of it. So he had six different times for this to happen, and not one time, not one time did the hep C ever show up.

So where are the facts of these hep C swimming around in undetectable levels? They're just not there. They're just not

there.

And so what happens is because they didn't include Roundup -- and we know why they didn't include Roundup. They didn't read the animal data. They didn't read the mechanistic data. They want you to ignore most of the epidemiological data.

They brought in Dr. Arber to tell you it's idiopathic. You can't tell what it is. Sorry. Don't know what it is. Happens to all these people. That's what they want you to believe, is that you just don't know what it is because they refuse to look at all the data and understand that pesticide use is a risk factor.

And if you remember, Dr. Levine actually had pesticide use on a document that she relied. She just didn't realize Roundup was a pesticide. She said, "Was it a pesticide? I didn't know that."

So you move through this, and one of the important things about the exposure which makes it so important that they actually considered it, and Dr. Weisenburger testified to this fact, is that the Roundup, when it got on your body, would penetrate the skin and go into the lymph and blood tissues. And he testified to that. It would sort of go in there and find its way right into your blood. And non-Hodgkin's lymphoma is a blood cancer. There's no doubt about that. Non-Hodgkin's lymphoma is a blood cancer.

I've gotten sort of off track here. So as you go back to your deliberation room and you can finally talk to each other about this, we need all six votes, like I said, all six votes. And I hope that you remind each other of the arguments that I said, and I hope that you review the documents that you guys have back there with you and find that Roundup was a substantial factor in causing Mr. Hardeman's harm.

And I just want to remind you one last time that to prevail on the question of medical causation, which is the question that you are finding today, Mr. Hardeman must prove by a preponderance of the evidence -- and the evidence I just showed you is compelling, it blows away the preponderance standard -- he must prove by a preponderance of the evidence that Roundup was a substantial factor. This is Jury Instruction 9.

Read those words, "preponderance of the evidence," "substantial factor." And picture this when you're back there, the weighted scale with just a feather on it, 50.01, more likely than not. More likely than not. You do not have to be convinced beyond a reasonable doubt.

And remember that a substantial factor does not have to be the only cause of the harm. It doesn't have to be the only cause of the harm.

And so I leave you with this image:

The evidence that we have presented to you today over the

last two weeks. We've given you all the pieces of the puzzle to tell you why and how exposure to Roundup causes cancer, and we showed you the evidence that Monsanto refuses to analyze. There's a dose-response. They won't look at how much he used it. Monsanto has presented to you the epidemiological data only.

So as you guys go back to the jury room and deliberate, please take all five of those pieces with you and make sure you consider all five of them. This is a very important question, and I thank you all very much for your time, and Mr. Hardeman thanks you for your time.

Thank you.

THE COURT: Okay. So good time for lunch. I can't see anybody behind that board, but we'll go ahead and take a lunch break. We will resume at about 40 minutes after the hour, about 12:40, for Monsanto's closing argument and then rebuttal from the plaintiffs, and then the case will be yours.

Thank you.

(Proceedings were heard out of the presence of the jury:)

THE COURT: Okay. Just a reminder to everybody in the courtroom, this order is particularly important now, everybody must stay in the courtroom for about five minutes while the jurors take the elevator and whatnot.

And it's also very important to remind everybody in the courtroom that you shouldn't be chitchatting openly about the

case and what you know about the case out there in the building where a juror may inadvertently hear you. So I just want to remind everyone of that. You're all prisoners here for the next roughly five minutes.

Anything to discuss before we break?

MR. STEKLOFF: I have two issues, Your Honor. The first, and I need to -- if I can have the break to think about what relief I would request, there was a slide you'll recall with Dr. Reeves that said basically there's no evidence of cause. That testimony was not -- we have checked. I'll give myself a little leeway, but I am 95 percent, if not more, confident that that testimony was not played. I think it was part of the rebuttal case that they were proposing today, and that rebuttal case was not played, and so we're unaware of any cite where that testimony from Dr. Reeves was played during the trial.

THE COURT: And I apologize. I didn't -- I reviewed the slides obviously but didn't realize that that testimony had not been played, if that indeed is the case.

MS. WAGSTAFF: We reviewed them as well, and I believe that it has, but we will check as well.

MR. STEKLOFF: We'll check. I mean, but we have during the closing checked multiple times and cannot find it in the Reeves designations.

THE COURT: Okay.

MR. STEKLOFF: The second is based on what we discussed at sidebar, which was, and I understand that Your Honor instructed the jury not to -- instructed the jury to disregard the last two sentences of Ms. Wagstaff's closing, but I think in her discussion of the jury instruction on causation, which we have discussed, I mean, in remarkable detail, we are asking for a curative instruction. So I'm happy to read the proposal that I have.

THE COURT: Sure.

MR. STEKLOFF: (reading)

"If you conclude" -- "A portion" -- sorry.

"A portion of my causation instruction reads as follows:

"If you conclude that Mr. Hardeman has proven that his exposure to Roundup was sufficient on its own to cause his non-Hodgkin's lymphoma, then you must find for Mr. Hardeman even if you believe that other factors were also sufficient on their own to cause his non-Hodgkin's lymphoma."

So I'm just reading back what's already in the instruction. And then the addition would be (reading):

"Under this portion of my instruction, you can only rule for Mr. Hardeman if you find that Roundup was a substantial contributing factor on its own independent of any other factors. Because you have heard no such

evidence from any witness, you may not consider the possibility that Roundup and any other factor worked together to cause Mr. Hardeman's non-Hodgkin's lymphoma."

THE COURT: Well, first of all, if I gave a curative instruction, I don't think I would read all of that back. I mean, the question is whether I should give them an additional instruction that reflects the final sentence that you read.

I think there may be a -- so I think there are two questions posed by that sentence. The first is whether I should give a curative instruction. The second is whether that sentence is accurate.

So read the sentence to me one more time.

MR. STEKLOFF: The last sentence, Your Honor, was (reading):

"Because you have heard no such evidence from any witness, you may not consider the possibility that Roundup and any other factor worked together to cause Mr. Hardeman's non-Hodgkin's lymphoma."

MS. WAGSTAFF: And, Your Honor, I didn't --

THE COURT: Hold on a second.

(Pause in proceedings.)

THE COURT: I'll give you my -- let me give you my gut reaction to it. I'll think about it over the break and hear from them of course, but my gut reaction to it is: Number one, as you've written it, it may not be quite accurate. I think it

may be possible the way the evidence came in for the jury -- I mean, again, it depends how you define "risk factor" in this whole discussion, this whole debate about what's a causative risk factor; right?

But I think it probably would be possible for the jury to ponder whether Mr. Hardeman's age sort of coalesced with Roundup exposure. So, in other words, you know, the jury might say, "Well, maybe if Hardeman had been, you know, 30 years old and gotten this exposure, he wouldn't have gotten NHL; but because he's old and because age" -- well, he's not that old, sorry -- "because he's older and" --

MS. MOORE: He's sitting right here.

THE COURT: -- "because he's older" -- old by the definition that the experts gave -- "and, you know, because cancer advances more quickly or cancer is more likely to develop in old people once a trigger event has occurred" -- right? So I think there may be a little bit of problem with the language.

And the point you really want to make is that the jury is not permitted to do what Ms. Wagstaff suggested they do during that moment during her closing, which is conclude that hepatitis and Roundup combined to cause the NHL.

MR. STEKLOFF: I agree, and I would be fine with using the word "hepatitis" or "hepatitis B or C" instead of -- in place of "any other factor."

THE COURT: But when she said that, so that was a very brief, very brief moment in her closing and I told the jury to disregard what she said, and I further noted that we had discussed ground rules and hoped that there wouldn't be further interruptions.

I mean, it seems -- and I reminded them that lawyer argument is not evidence. So in light of all of that, you know, my pretty strong reaction is that a curative instruction or a further instruction on causation in light of that statement alone is not necessary.

I will -- you know, I think there -- you know, I think it's very possible that such an instruction could be necessary if that were to happen again in rebuttal -- which reminds me, have you prepared any slides for rebuttal? I didn't get any.

MS. WAGSTAFF: No.

THE COURT: Okay. So you're not using slides during rebuttal?

MS. WAGSTAFF: Correct. I mean, I may use a blowup or something, but nothing slides.

THE COURT: Okay. All right.

So --

MS. WAGSTAFF: And I won't do that again in rebuttal. I think that I -- I mean, there's multiple interpretations of what was said. I didn't -- I understand how Mr. Stekloff, what he had said to you, could be interpreted. That's clearly not

what I meant to say, and I would argue that the jury probably didn't -- their reaction to it was probably more than the statement itself and that it's been more than cured.

THE COURT: I think that's probably -- I think that's probably true that the reaction -- I mean, it's something that we are all very intensely focused on --

MS. WAGSTAFF: Yes.

THE COURT: -- and have been, like, all night; right?

MS. WAGSTAFF: I mean, everyone was just --

THE COURT: So I think given the sort of totality of everything that's happened in this case, I don't -- you know, and with an instruction that's designed to steer the jury away from considering that argument for which there was no evidence, I think it's probably not necessary. I'll give it a little more thought over the lunch hour, though.

MS. WAGSTAFF: Thank you, Your Honor.

MR. STEKLOFF: Thank you, Your Honor.

MS. WAGSTAFF: Are we coming back at 12:30?

THE COURT: 12:40 is when I told the jury we would begin.

MS. WAGSTAFF: Okay. Thank you, Your Honor.

THE COURT: All right.

(Luncheon recess taken at 12:03 p.m.)

AFTERNOON SESSION **12:43 p.m.**

(Proceedings were heard out of presence of the jury:)

THE COURT: Is there anything to discuss?

MR. STEKLOFF: Just, Your Honor, the parties conferred at the break and confirmed that that Reeves' testimony was not brought -- was not brought into evidence. Having said that, we, on our side, are not asking for a curative instruction.

THE COURT: Okay.

MS. WAGSTAFF: And, Your Honor, it was very unintentional. It was in a previous run report. And somehow it got in. We conferred and there is no --

THE COURT: I mean, my recollection of it is that if it didn't come into evidence -- testimony somewhat similar to that didn't come into evidence.

MS. WAGSTAFF: Okay. Thank you, Your Honor.

THE COURT: Okay. Can we -- can you-all get a couple other people from your legal teams to take those seats in case we need more room in the courtroom?

MS. FORGIE: Oh, yes, Your Honor. There is one chair that is broken.

THE COURT: Okay. All right. You can sit at that table as well, but I'm just looking for ways to make more room for people if they come in.

MS. WAGSTAFF: I will put three of them up here.

THE COURT: Go ahead and bring in the jury.

(Proceedings were heard in the presence of the jury:)

THE COURT: Welcome back.

Mr. Stekloff, you can begin.

CLOSING ARGUMENT

MR. STEKLOFF: Thank you, Your Honor.

Good afternoon, everyone. At the beginning of the case when I stood up in opening, I told you that Tamara, Rakesh and I were going to present to you the evidence you needed to decide the question. And the question was: Did Roundup cause Mr. Hardeman's non-Hodgkin's lymphoma?

And now that you have been instructed on the law, when you go back -- the verdict form question is this: Did Mr. Hardeman prove by a preponderance of the evidence that his exposure to Roundup was a substantial factor in causing his non-Hodgkin's lymphoma?

And one thing is not in dispute. The burden is on Mr. Hardeman. He has to prove this question. We don't have to prove anything. And so I want to talk just for a moment about the burden of proof.

You might recall that in jury selection we actually talked a little bit about the burden of proof, and one of the questions that I asked everyone who was here was, If you had to vote right now, that day, how would you vote? And I think everyone said -- raised their hand and said, We haven't heard any evidence so we can't vote. And everyone aced the test. Everyone got the answer correct.

Now you have heard the evidence, but that doesn't mean

that we started -- remember that picture of the scales with the feather that we started at 50/50 and all that is needed is a feather. We started at zero. They started at zero, and they have the burden of proof. And now they have to prove to you with the evidence that they have shown you during this trial -- and also considering the evidence that we have shown you during this trial -- that more likely than not, above 50 percent, they have proved this question. That is what -- when you go back and deliberate -- you have to answer.

So let's start with Mr. Hardeman because that's the question you have to answer. Did Roundup -- was it a substantial contributing factor to Mr. Hardeman's non-Hodgkin's lymphoma? And you heard some things throughout this trial that really are not in dispute in any way about Mr. Hardeman's non-Hodgkin's lymphoma.

You heard he was diagnosed with diffuse large B-cell lymphoma, the most common type of non-Hodgkin's lymphoma. You heard there is no marker to determine cause. There was nothing that Dr. Weisenburger, Dr. Arber, the pathologist at Kaiser or anyone else could have done to look at his cancer and say, I know what caused his cancer, and certainly nothing to say, I know Roundup caused his cancer.

There was no test to determine the cause of his cancer. Nothing else that could be done, no medical tests that could have been performed on Mr. Hardeman to determine the cause of

his cancer. And I think you heard there really was nothing unique about his cancer.

Dr. Arber just this morning told you if you wanted to take a diffuse large B-cell lymphoma and teach -- you know, put it in a textbook to teach about it, you could take the tumor that he looked at -- of Mr. Hardeman's cancer and put it on the slide. That's what he told you.

And so I also want to pause here for a moment and just make something clear. This case is not about Roundup versus hepatitis C. I'm going to talk about hepatitis C. You heard from Ms. Wagstaff about hepatitis C. You have heard a lot of evidence in this trial about hepatitis C. But this is not an either-or choice.

Because, like -- cancer is non-Hodgkin's lymphoma, diffuse large B-cell lymphomas that happen every day, it might just be that Mr. Hardeman's cancer was idiopathic; that no one can tell you the cause; that there is no way to know what caused his non-Hodgkin's lymphoma, which unfortunately happens every single day in hospitals, in cancer centers around the country.

We know that because you have heard that testimony. That is undisputed as well. Dr. Ye, Mr. Hardeman's oncologist, testified unfortunately the cause of non-Hodgkin's lymphoma is unknown. His answer was: For most patients, it is unknown.

And Dr. Weisenburger, the only doctor they brought you, the only expert they brought you to talk about Mr. Hardeman,

said the same thing.

The cause of the patient's non-Hodgkin's lymphoma is unknown in most cases, right?

And his answer was: Yes.

Now, you are going to see in the instructions that part of the instruction -- and I'm going to walk through more detail of the instruction though -- for something to be a substantial contributing factor part of the instruction says, Conduct -- subject to the additional instructions below: Conduct is not a substantial factor in causing harm if the same harm would have occurred without that conduct.

And so I asked Dr. Weisenburger when I examined him, and I had to -- there is this concept of impeachment. Sometimes people don't say one thing, and you have to remind them of what they said under oath previously -- but I asked him: And you were asked and you would agree that Mr. Hardeman could have been diagnosed with the exact same diffuse large B-cell lymphoma without exposure to Roundup, true? And your answer was it's possible, right?

And he said, It is possible.

That was his testimony. It's possible even under their expert who thinks Roundup was the cause, that had he never used Roundup, he could have had the same exact non-Hodgkin's lymphoma; the exact same diffuse large B-cell lymphoma.

Now, does Roundup matter to doctors outside this

courtroom? Because you are hearing one thing in this courtroom, but you've also heard testimony about what happens outside of this courtroom. So you have heard from three of Mr. Hardeman's treating physicians: Dr. Ye, who was his oncologist, who treated him for his cancer; Dr. Turk, his general practitioner; and Dr. Turley, who you will remember was the ear, nose and throat doctor who took the biopsies from the tumor that was on Mr. Hardeman's neck.

None of them said Roundup causes cancer. None of them said Roundup caused Mr. Hardeman's cancer. None of them asked their patients about Roundup. And Mr. Hardeman's medical records don't say Roundup. None of them put Roundup in his medical records.

But it wasn't just those doctors that you heard from that talked about how Roundup is treated in the real world outside of this courtroom because just this morning Dr. Arber took the stand and he was asked: Doctor, what role -- what, if any, role does Roundup play in your clinical practice?

He works at the University of Chicago. He used to work at Stanford. We are talking about two elite hospitals here in the United States.

And this was his answer: None. When I receive specimens, I always get a list of details of the clinical information that the treating physician feels are important for me to make a diagnosis, including risk factors. And I have never in my

career received a specimen where Roundup was listed as a risk factor for a patient.

So what does that tell you about what is happening at University of Chicago, Kaiser facilities here in California, City of Hope from Dr. Weisenburger and Dr. Levine -- which we will talk about more -- doctors outside of this courtroom are not considering Roundup a cause.

And they are going to get up and say, Well, they are not experts in pesticides. The literature just -- they just don't know the literature. That literature, the epidemiology and even those other studies that they are talking about, the animal studies, those are published articles that any doctor can go pull off of their -- off of PubMed, which you heard was somewhere where doctors can go to to review literature.

So who is the only expert for the Plaintiffs, or for the defense, who is the only expert, the only person who came in here and told you that Roundup caused Mr. Hardeman's cancer? Dr. Weisenburger. So I want to talk to you about Dr. Weisenburger.

He is not an oncologist.

I want to pause there for a moment. They could have brought you an oncologist. They could have brought you a doctor who treats patients who have cancer, who treats patients who have non-Hodgkin's lymphoma. They could have found an oncologist from anywhere. They didn't bring you one. They

have the burden.

Instead they brought you a pathologist, who, like Dr. Arber, looks at tissues on slides and doesn't interact with patients.

And Dr. Weisenburger admitted he has never told a patient Roundup caused his or her cancer outside of this courtroom. That's how he interacts with patients. He has never gone to the other oncologists at City of Hope, who are dealing with patients who have non-Hodgkin's lymphoma, and told them that he thinks Roundup causes cancer. He has never gone to the other pathologists, that he works with and that he was training and overseeing for years as the head of pathology at City of Hope, and told them that Roundup can cause cancer. And he has never included Roundup or glyphosate, to be clear, in a pathology report for a patient whose cancer he was evaluating. That's what happens outside of the courtroom.

And he admitted that he really wasn't the right person to be here. This was a description of his role. The job of the pathologist is to look at the slides and to do stains or other tests that might help, but we don't interview the patients. We don't review all of their laboratory results. So that's the job of the clinician, okay.

He is talking about oncologists there when he says clinician.

That is the job of the clinician, not the job of the

pathologist.

Now, would oncologists want to know? Because there was this argument, Well, they wouldn't really want to know. It wouldn't help them treat their patients.

But Dr. Ye was asked this question: As part of your care and treatment of your patients, if you could determine the cause of their cancer, you would want to do so, right?

And his answer was: Yes.

And Dr. Levine was asked: Now, there has been testimony about oncologists who want to know the cause of their patient's non-Hodgkin's lymphoma. And my question for you is: If you, Dr. Levine, could know the cause of every one of your patients' non-Hodgkin's lymphoma, would you want to know?

Her answer was: I would absolutely want to know.

So there is no excuse for someone like Dr. Weisenburger to not tell the world what he thinks he knows, what he doesn't -- not tell the oncologists that he works with at City of Hope what he thinks is a cause of cancer in Roundup so they can use it to treat their patients.

We even asked him that question: If a patient came in with non-Hodgkin's lymphoma, and it were true that Roundup or glyphosate caused his or her cancer, the oncologist would want to know that, right?

And his answer was: Yes.

And, of course, they would want to know it. If they

thought -- if they believed that Roundup caused cancer and their patient was still using Roundup, they would go to their patient and say, Stop using Roundup. But he is not telling anyone what he is telling you in this courtroom.

Let's also talk about his method, because it is not just what he is telling you as compared to what he doesn't tell people outside of this courtroom. It is also the method he used. And we saw that board this morning where he moved certain risk factors over and then he crossed some out and then he -- the one thing standing was Roundup, right? That's the method that he used.

And so you will recall -- you -- you have to judge for yourself how you felt on direct, whether you thought what he presented in his case on direct, that's what happens outside of this courtroom. But when I stood up on cross-examination, this is where I started. Maybe not these exact questions, but this is the topic that I started with.

You have never used this method -- that differential method -- to determine the cause of a non-Hodgkin's lymphoma patient's cancer, correct?

No.

He fought me a little.

No, but I have done it in other cases where I have tried to rule out causes. So, you know, I have done it. I have done it in other cases.

So I followed up: But not to determine the cause of non-Hodgkin's lymphoma, correct?

No, because it is not part of my practice.

So not only is he not telling people outside of this courtroom what he is telling you, he is doing something outside of this courtroom that he doesn't do in his practice as part of treating patients with non-Hodgkin's lymphoma.

And it is not just him, that method. We asked Dr. Levine and we asked Dr. Arber about that specific method, and this is what they said.

Dr. Levine: And specifically did you review the testimony he, Dr. Weisenburger, gave about what he calls his differential method?

Yes, I did.

Have you in your 40-plus-year career as an oncologist ever used that method to determine the cause of a patient's non-Hodgkin's lymphoma?

No.

And do you believe -- this is Dr. Arber now.

And do you believe as someone who has been practicing in pathology for -- how long is it now?

26 years.

-- 26 years, do you believe that this is a valid way of identifying the cause of a patient's non-Hodgkin's lymphoma as a pathologist?

No, I don't.

It's not just that he doesn't tell people. It is not just the method he used. It is also the standard he used because you will recall he said more likely than not, 51 percent, Roundup was a substantial contributing factor to Mr. Hardeman's non-Hodgkin's lymphoma.

He is obviously taking that from the overall burden the Plaintiffs have, but he doesn't have to apply that burden in talking to you about his opinions. He can use whatever reasonable degree of medical certainty he thinks is appropriate. But he said it was 50.1 percent. So I asked him about that.

What do you focus on in your clinical -- what you do focus on in your clinical care is making diagnoses, right?

Yes.

When you were making a diagnosis, if it is 51 percent, you don't go tell the other doctors, This is the diagnosis. You run other tests, right?

For making diagnoses, we have to be much more sure than that. Absolutely.

So what other risk factors are in dispute -- because Roundup is in dispute -- but what other risk factors that are not in dispute that relate to Mr. Hardeman. There are four of them you have heard about during this trial: Hepatitis C, hepatitis B, his age and his weight.

And there is no dispute -- I want to talk about hepatitis C first. There is no dispute that Mr. Hardeman had approximately 39 years of active hepatitis C, and that that active hepatitis C could cause genetic mutations anywhere during that 39-year period.

This is what Dr. Weisenburger said: So he had active hepatitis C that can lead to genetic mutations -- that can lead to cancer for 39 years, right?

Probably, yes, it was probably that long.

There is also no dispute that we know that that active hepatitis C was affecting Mr. Hardeman because he had cirrhosis of the liver. It is in his medical records. Dr. Ye agrees. Dr. Weisenburger agrees. Dr. Levine agrees. Everyone agrees. And everyone also agrees that the cirrhosis was caused by Mr. Hardeman's hepatitis C. And everyone also agrees that it takes decades -- or at least a decade -- for cirrhosis to result from active hepatitis C.

Now, let's talk about this hit-and-run explanation that Dr. Levine came in and explained to you yesterday. This is what she said about the hit-and-run.

Hepatitis C can directly cause accidents, mutations, in the DNA.

Mr. Hardeman had mutations in his DNA. So you will recall that the pathology report, there were mutations in Mr. Hardeman's DNA.

Once that accident is there, the virus doesn't have to be there anymore at all. We call that a hit-and-run kind of mechanism.

And it isn't just Dr. Levine coming in here and telling you about the hit-and-run. And I think during the Plaintiff's opening, I think it was called a "catchy phrase." This is not a catchy phrase. This is a scientific phrase that is discussed in peer-reviewed literature.

So in the left you can see Dr. Levine's article from 2004 where she and a group of colleagues explained these results indicate that hepatitis C virus induces a mutator phenotype and may transform cells by a hit-and-run mechanism. This finding provides a mechanism of oncogenesis for RNA -- that is active virus. So when the virus is active, it can do this hit and run.

But it wasn't just Dr. Levine's article. There is a later article from 2013 in the *Journal of Hepatology*. Hepatology, you heard, is the treatment of hepatitis. So this is the *Journal of Hepatology*. And the group of other articles published about this same opinion, this same explanation, scientifically valid explanation, for how hepatitis C can cause mutations.

And it is really not that complicated. You can see in this picture. The hepatitis C can enter the cell. You can see that at the bottom where it says "entry." It can cause DNA

damage. And specific mutations -- and we will talk again briefly about that BCL6 in there -- and then you can see the hepatitis C leaves the cell.

So the hepatitis C isn't inside the cell, and the hepatitis C isn't attached to the cell. That lock and key isn't there anymore. And that is why treatment doesn't matter. Because if you have this mutation, it doesn't matter if you treat the hepatitis C, the mutation is there. That is the hit-and-run explanation that is in the science.

And remember the concept of latency? Dr. Levine walked you through this yesterday. At any point during those 39 years -- so in the 1960s, 1970s, 1980, 1990s, or from 2000 to 2005 -- these mutations from the hit-and-run could have occurred. But it takes years or decades for the cancer to develop because for a long time, as she wrote, the cancer is hidden from the patient and from the doctor.

So the fact that there is this time period from 2006 when his treatment is completed to 2015 does not mean that he didn't have mutations that were caused before 2005 from the active hepatitis C through the hit-and-run. So this is the timeline that explains that.

In 1966 -- between 1966 and 2005, those mutations could have occurred. Those mutations are the type of mutations that lead to diffuse large B-cell lymphoma. Remember, Dr. Levine explained that to you yesterday.

This entire period after -- well, first of all, let's now look at what Dr. Weisenburger says because he agrees the mutations could have occurred during this 39 years. From 1996 to 2005 he agrees mutations could have occurred. So what is his solution to dismiss hepatitis C and tell you you shouldn't pay attention to hepatitis C? I mean, talk about ignore. He wants you to ignore the role that hepatitis C is playing in Mr. Hardeman or could have played in Mr. Hardeman.

This is what he said: And based on what I have told you and the studies I showed you yesterday, it's my opinion that after he was cured from the hepatitis C, he was no longer at risk for non-Hodgkin's lymphoma.

Okay. You remember the curves all went back to the normal background level after treatment. And the studies that he is talking about are the exact same studies they showed Dr. Levine yesterday; that I showed again on redirect.

Half of them don't even apply to diffuse large B-cell lymphoma, and the other ones are other problems or small or just not applicable. He is relying on those studies and the antiviral treatment to tell you to ignore hepatitis C.

But to be clear, the antiviral therapy does not matter. So this whole question -- that we spent I think over an hour on yesterday on cross of Dr. Levine about whether there is still a little bit of hepatitis C or a little bit of hepatitis B in Mr. Hardeman's blood after 2006 -- is irrelevant. It is a

sideshow. It has nothing to do with whether hepatitis C may have caused Mr. Hardeman's non-Hodgkin's lymphoma because of the hit-and-run theory.

If you have 39 years where you can have that hit-and-run theory, and then it takes potentially decades to develop cancer; and treatment doesn't get rid of the mutation in that cell, it doesn't matter if there is still hepatitis C left in his body. That is what Dr. Levine explained to you carefully yesterday.

Let's talk about hepatitis B. Dr. Weisenburger dismisses that one as well. Now, he says: You can't rule out -- he was asked: You can't rule out that at some point between 1966 and 2005, Mr. Hardeman had an active hepatitis B infection, correct?

I can't. We don't know. We don't know.

And so you can't rule out that if he had an active hepatitis B infection at any point between 1966 and 2005, it may have caused genetic mutations, right?

It may have, yes.

And his answer for this on their board was that Mr. Hardeman was immune to hepatitis B even though we heard yesterday he wasn't actually immune because he didn't receive the vaccine or the vaccine didn't work.

But regardless, while it is not as well established, the exact same hit-and-run mechanism may have applied with

hepatitis B. And Dr. Levine explained this.

She said: Hepatitis B can cause the same kinds of accidents or genetic errors, mutations, in the DNA just as I was saying about hepatitis C. And hepatitis B has also been proven to be a cause of non-Hodgkin's lymphoma and specifically diffuse large B-cell lymphoma.

Now, she said the hit-and-run is not in the literature specifically about hepatitis B, but you can't just ignore it. And that's what Dr. Weisenburger did. He simply just ignored that. If something doesn't fit into his desire to say Roundup is the cause, he asks you to ignore it.

Again, how does he dismiss the hepatitis B? He says -- he goes back to that treatment, the treatment that doesn't matter. And the same is true for hepatitis B because he was -- he has been immune to hepatitis B all along throughout his entire nine or ten years up to the time he developed lymphoma, and he never had active infection. He was immune to hepatitis B. So the hepatitis B would not cause his non-Hodgkin's lymphoma either.

But Dr. Weisenburger doesn't know that because Dr. Weisenburger doesn't know that a mutation may have occurred while there was active hepatitis B that then didn't -- the treatment wouldn't have affected it.

Let's talk briefly about age. I mean, we had -- I think Ms. Matthews Johnson had to fight Dr. Ritz about this, but finally she conceded: NHL, like most other cancers, is a

disease of aging with dramatically higher incidence as people age.

And Dr. Weisenburger said a similar thing. Age is a known risk factor for non-Hodgkin's lymphoma. That is, as you get older, your risk for non-Hodgkin's lymphoma increases. But again, he tells you this doesn't matter. And we are not saying Dr. Levine told you age doesn't cause by itself non-Hodgkin's lymphoma.

So I'm not saying anything differently. But you can't just ignore the role that age may have played because if you have those mutations from the hepatitis C -- in particular during the 39 years -- remember how she explained how your immune -- how your immune system tries to fight those mutations or hold them down -- but as you age, that becomes less and less and less likely. And that can lead to the exact non-Hodgkin's lymphoma, the diffuse large B-cell lymphoma, that Mr. Hardeman developed.

So I want to walk you through how I finished my cross-examination of Dr. Weisenburger because what it really shows is no matter what, he will come into a courtroom if a patient -- if a Plaintiff used Roundup and say Roundup was the cause.

So I asked him this question: Isn't it true, Dr. Weisenburger, that absent -- and I just want to pause there also. We just heard his extremely high dose, extremely high

dose. But this is what I asked Dr. Weisenburger about basically any dose.

Isn't it true, Dr. Weisenburger, that absent extreme examples of very minimal use of Roundup or that someone is wearing, like, a suit where they never have any skin exposure ever to Roundup, if you have a patient as part of your methodology who was exposed to Roundup and developed non-Hodgkin's lymphoma, in every one of those cases you are going to say more likely than not Roundup was a substantial contributing factor?

He didn't like that question, so he said: No. I would have to each -- I would have to weigh each case individually, just like I did with Mr. Hardeman, and look at how much exposure there was and make a decision in each case. So that's the way I would approach it.

So I asked: Okay. So what I said is inaccurate?

He said: I think it is inaccurate, yes.

So I read him back the question. And then I read him his answer from prior sworn testimony under oath. And his answer in prior sworn testimony to that question -- this long question about basically someone who has even the most minimal amount of Roundup use was: More likely than not, right?

He said: Yes, more likely than not -- and then he added -- if there was substantial exposure, okay.

So I asked him: So you are changing your testimony?

He said he is clarifying it.

I asked again: Changing it?

He said: Well, I'm changing it and clarifying it for you and for the jury.

So under oath here Dr. Weisenburger changed and clarified the testimony that he didn't like; that he had previously given under oath; that helped prove that he would find Roundup to be the substantial contributing factor in any case where a patient used Roundup.

Now, what is it overall that Dr. Weisenburger is dismissing in this case as part of his methodology? He is dismissing the possibility that Mr. Hardeman's non-Hodgkin's lymphoma was idiopathic. You heard that 70 to 90 percent of non-Hodgkin's lymphomas outside of this courtroom are idiopathic. He is not even factoring that in it. Is not even on his list.

He is telling you to dismiss the 39 years of hepatitis C that could have caused mutations through that hit-and-run mechanism, that scientific mechanism; don't pay attention to it.

He is asking you to ignore Mr. Hardeman's exposure to hepatitis B that we know he had since he has the antibodies today.

He is asking you to ignore the fact that his diagnosis occurred at age 66 when his immune system could have been

weakened.

And he is also asking you to ignore that BCL6 mutation that Dr. Levine explained yesterday.

So I want to pause there for a moment. You will recall Dr. Levine explained that there was a BCL6 mutation in Mr. Hardeman's non-Hodgkin's lymphoma. It was on the pathology report.

And we also saw in those studies that BCL6 was the mutation that was -- one of the mutations that was resulting from that hit-and-run mechanism from hepatitis C.

Now, Dr. Levine also told you that this -- this mutation is not specific. So it doesn't mean just because you have the mutation that it was there from hepatitis C. It occurs in many people, a BCL6 mutation.

But what is significant here is that Dr. Weisenburger is the pathologist. Dr. Weisenburger reviewed the pathology report. Dr. Weisenburger told you a few weeks ago he finally reviewed the slides of Mr. Hardeman's tumor, and he didn't even talk to you about this BCL6 mutation.

So ask yourselves: Was he trying to tell you all of the information? Was he trying to provide you with all of the information you need to answer the question about whether Roundup was a substantial contributing factor to Mr. Hardeman's cancer?

And what is the data about Roundup? You will also recall

seeing this graph -- and this evidence came in -- and Dr. Ritz and Dr. Weisenburger and others testified that in the '90s, that was when there was this spike in Roundup use. So if you have a latency period of 20 years -- people may have been using Roundup before the '90s, but then there was a spike in the '90s. You have an average latency, 10, 15, 20 years out, 25 years out, you should see a spike, if their theory is true, in non-Hodgkin's lymphoma cases in this country. And that has not occurred.

And the only explanations that came in were Dr. Ritz said something about chocolate and Nobel Prizes that has absolutely nothing to do with this.

And then Dr. Weisenburger came in and said something about the HIV epidemic, which, of course, occurred; but didn't tie it at all from a timeframe or any scientific way to how it explains why this data is not meaningful. This data is consistent with the notion that when -- that Roundup is not causing non-Hodgkin's lymphoma because if it were, we would be seeing major increases in non-Hodgkin's lymphoma in this country.

So let's talk now about those three stools. We have heard about the epidemiology. We have heard about the animal studies. We have heard about the cell studies. But what does everyone agree?

This is their expert, Dr. Portier, from his publication

with other colleagues: In the evaluation of human health risks, sound human data, whenever available, are preferred to animal data. Animal and in vitro studies provide support and are used mainly to supply evidence missing from human studies.

Well, we have human studies here. And you have heard a lot about it. You saw these charts. You saw all the odds ratios. And I'm going to talk to you about it, but we have human data.

And Dr. Mucci explained the same thing to you. Dr. Mucci was accused of somehow not considering all of the evidence. She -- and telling you to ignore the evidence. She told you the opposite. She said, Don't ignore the evidence. But she also told you this: If we want to understand why cancer occurs in humans, the ideal population to study is human beings. So, therefore, the epidemiology studies really are the highest level of evidence that we have in trying to understand any relationship between a risk factor and cancer risk.

And so why is it that you look at the human studies and not the animal studies as the primary evidence if you want to answer the question of why something causes cancer in humans?

Well, first of all, the animal studies -- I think you heard that I was going to say this. I am going to say this because it is significant -- the animal studies give high, extremely high doses to the mice and the rats. They feed them as much as they can. You heard about that maximum tolerable

dose. They feed them as much as they can.

And Dr. Portier said: Do you take issue with it being hundreds or thousands of times higher than what humans are exposed to?

He said: It's much higher -- this is the dosing in animal studies -- it is much higher. I will give you that.

And we saw a lot of evidence this morning about this one animal study, the Knezevich study, when the chart was pulled up. And I think you saw document after document about whether it was going to be a Class 3 oncogene. Do you recall that?

Well, we, in this trial, have presented you with all the evidence. Even in closing this morning, you didn't get all the evidence because the story wasn't finished. And that timeline that they showed you of this one study, where the one control -- remember one tumor was found in the control group? This is where that study ended. In 1991, based on everything that the EPA considered, they made this determination: Glyphosate should be classified as a Group E, evidence of non-carcinogenicity for humans based on lack of convincing carcinogenicity evidence in adequate studies in two animal species.

So that story that you heard this morning about the one tumor in the control group, you only heard half the story. And this is how the story closed out.

And, again, you don't take animal studies and make a leap

to human studies.

Dr. Portier, during his testimony, gave this testimony: You would need to look at the human data, correct?

We would need human data in order to make that leap from animals to humans for a specific disease.

Including glyphosate and NHL?

Including NHL and any agent.

So we are not telling you to ignore the animal data, but we are telling you exactly what their experts are telling you: You can't make leaps from the animal today. And where human data is preferred, you rely on the human data, which is what we have here.

So let's talk about genotoxicity for a moment because it is the same thing. We are not asking you to ignore genotoxicity, but this is what their own experts have said about genotoxicity.

It is not the purpose of genotoxicity assays to establish that glyphosate causes NHL.

And Dr. Portier said: Genotoxicity assays are not used to establish that glyphosate causes NHL in people.

Again, you take the evidence, and you look at the best available evidence, the most significant evidence, which is the health -- which is the human studies.

And you also heard in this trial that people disagree with Dr. Portier. So all those charts you saw, you will recall he

wrote to the European regulators to try to persuade them that he is right about Roundup and glyphosate and they are wrong. And this is the letter that the European regulator wrote back to him.

They said: Considering the weight of evidence approach, taking into account the quality and reliability of all of -- of all available data, it is concluded that glyphosate is unlikely to be genotoxic in vivo and does not require hazard classification regarding mutagenicity, according to the regulation.

And to be clear, I'm not telling you -- pursuant to exactly what the judge instructed you -- that just because Europe thinks something, that you should think something. The Judge has made clear -- and this is the law -- this bottom sentence: You are not to substitute for your own -- you should not defer to any such conclusions. They are not a substitute for your own independent assessment of the evidence presented in this case.

You should consider the original data, the human data. But you also should know that Europe looked exactly at what Dr. Portier told you and said, We disagree.

And they didn't just say that about genotoxicity. They said that about his opinions more generally because here is the summary in the letter that they wrote back to him in 2016.

EFSA -- that is the European regulator -- considers that

the arguments brought forward in the open letter do not have an impact on the EFSA conclusion on glyphosate.

So the evidence about these regulators is that post-IARC, after that IARC decision in 2015, post-Dr. Portier, after he wrote a letter to them trying to persuade them that he was right, the regulators made a determination from all of the evidence that glyphosate is not carcinogenic.

Let's talk about the human epidemiology studies. And I think, again, there was an argument this morning that somehow we are telling you to ignore studies. That is almost exactly opposite of what Dr. Mucci told you.

She said you have to consider all the studies, but you also have to consider the details of the studies, the methods of the studies, the numbers in the studies, the dates of the studies and that is what she walked you through.

And one thing you should ask yourself is whether Dr. Ritz, their epidemiologist, did the same thing because you may recall Dr. Ritz probably spent an hour and a half to two hours trashing the Agricultural Health Study. And she put all those numbers on the chart that you were shown again this morning. She didn't tell you one single criticism or potential problem in any of the studies that they -- that she says supports her. And then she spent an hour and a half to two hours just trashing AHS.

Dr. Mucci -- and this is for you to evaluate -- did not do

the same thing. Dr. Mucci presented both sides in a factual way, acknowledging that the AHS wasn't perfect, but that it's the best evidence we have about the risk in humans for Roundup.

So I want to start with the right side, the Agricultural Health Study, and what Dr. Mucci walked you through about that study. She had four main highlights. It was repeatedly validated. It used cancer registries to identify cancer so that cancers weren't missed. You will recall there was this argument from Dr. Ritz. Well, what about if people moved? Dr. Mucci explained if they moved, they were excluded so we didn't miss any cancers.

She explained the power and the size. You will remember there were over almost 45,000 glyphosate users in that study, and that that study properly adjusted for other pesticides.

Now, Dr. Weisenburger, even he himself had to admit that he respects not only the National Cancer Institute but also the scientists associated with the AHS.

You respect the researchers and doctors who are associated with the National Cancer Institute, right?

Yes?

And even more specifically, you respect the doctors and researchers that are part of that 2018 Agricultural Health Study publication, right?

Yes.

And these are some of the things Dr. Ritz said during her

long explanations about the AHS. She called it "a beautiful study." She said they have done an amazing job. She said it had a well-designed questionnaire, and she called the method, one of the methods that they used, a very fancy method.

But then she came in here and told you you shouldn't -- you should ignore the AHS because it's such a bad study. I think you heard it again this morning. It is such a flawed study that you should not even consider it.

But remember this timeline: From 2001 to 2017 she was on the advisory board of the Agricultural Health Study. She was the chair from 2005 to 2017 and publication after publication that were related to the issues, you heard about, were published during that time period, either right before it, in the middle of it, or right after it, including *De Roos* 2005.

De Roos 2005 was published while she was on the advisory board as the chair, and *Andreotti* came out in 2018, right after she stepped down. She had no criticisms of the AHS while she was in the chair.

I think her only explanation that she gave you, she said something like, The baby is in the well. And I do not know what that means, but it is not an excuse to say, I didn't have criticisms then, but I have them now because in 2016 when she became a Plaintiff expert, that is the first time that she started raising questions about the Agricultural Health Study. There is no evidence before 2017 -- before 2016 that she did

that.

I think she tried to say, Well, there was a slide in my slide dec that I presented to my class. Do you recall that? Well, it was a 50 or 60-page slide dec. They showed you one slide during her examination, and then Ms. Johnson had to show you all the slides in the dec about Agricultural Health Study that don't have any criticisms.

And that study is important because even Dr. Ritz admits it was evaluating the right people. This was her testimony, what they did -- this is talking about the Agricultural Health Study is -- said: Well, you know, who is the group of people most exposed to pesticides? If that's what we are interested in, it is farmers. So let's go out there and assemble a large group of farmers, and that's what we call a cohort, a cohort of farmers.

And even if -- it may not be specific to Agricultural Health Study, but all of the studies you heard, even the case control studies, were studying farmers. She talked about farmers in Canada, farmers in Sweden, farmers in some of the other states here in the United States.

And in the end, what did the data show? After all of that data was collected for 20 years, starting in the 1990s until 2018 when the most recent publication came out, it showed you that whether you were one of the 40-something-thousand people using glyphosate in that study or whether you were just the

regular U.S. population, your chances of developing non-Hodgkin's lymphoma were 1 percent; exactly the same.

So, again, ask yourself if what they are saying is true, if Roundup is this huge problem that is causing cancer everywhere -- because it is causing all these tumors and all these cell problems -- why is it that the rate of cancer in 45,000 people who are using Roundup all the time is only 1 percent; the exact rate of the general population of getting non-Hodgkin's lymphoma?

And these were the conclusions that the authors offered in 2005 and 2018 after all of their analysis. In 2005 they said there was no association between glyphosate exposure and all cancer incidence or most of the specific cancer subtypes we evaluated, including non-Hodgkin's lymphoma.

And you recall, Dr. Mucci explained this. They used multiple ways to measure that. Whether the exposure metric was ever used, cumulative exposure days or intensity-weighted cumulative exposure days. And then in 2018, they followed up on the results, and they came to the same conclusion: No association was apparent between glyphosate and any solid tumors or lymphoid malignancies overall, including non-Hodgkin's lymphoma and its subtypes.

That is the best data, the best human data available.

Again, we have heard about this concept of dose response. Remember hearing that this morning? Well, they studied that

too. And you will recall -- this is for non-Hodgkin's lymphoma -- whether you were in the none group -- that you had never used Roundup -- the low group, the medium-low group, the medium-high group or the high group, you were at the same chance of having non-Hodgkin's lymphoma -- a small chance, about 1 percent -- across all of the groups. And Dr. Mucci explained to you if there was a dose response, you wouldn't see this between the high group, the people that were using Roundup the most, and the none group, the people who were never using Roundup. You would not see that.

And I also want to make a point about this. I think two of the pieces of the puzzle were glyphosate and then the surfactants. These people were using the glyphosate and the surfactants. They were using Roundup. So this study answers both pieces of that puzzle.

This data was the same in this. If I showed you the chart that Dr. Mucci showed you for diffuse large B-cell lymphoma, the numbers were different; but the results were exactly the same. There was no dose response of these over 45 -- almost 45,000 glyphosate Roundup users in the AHS.

And so then we heard it was such a flawed study. It is so flawed. It is so bad. You shouldn't even pay attention to it. Well, look at all of the ways it was validated. And I'm not going to walk through all of these studies, but you heard about them from Dr. Mucci.

The study design was published. The questionnaires were tested and published. The supposed missing 37 percent data was published and analyzed, and the exposure was analyzed so they could answer questions like the dose response.

And specific to that questionnaire issue, that 37 percent that you saw this morning, that question was tested and answered time and time and time again. They were in response to the people that -- that Sheppard group who wrote an article asking them a question, but most significantly they did an analysis of just the people who returned the second questionnaire. Remember there were two questionnaires, and the big criticism is, "Well, some of the people didn't fill out the second questionnaire."

So they said, "Let's just look at the people who filled out both," and there were 34,698 people. And what was their conclusion when they did that? Glyphosate use was not associated with non-Hodgkin's lymphoma.

So when you hear these criticisms that you should just ignore the Agricultural Health Study as a completely flawed study, that is not consistent with what these well-respected scientists associated with the National Cancer Institute did.

But Dr. Mucci didn't just -- again, she didn't say it was a perfect study. She explained the questions in the study, the concerns that were raised about the study, and then how or whether they were addressed.

She did the same thing for the case-control studies. Those are the four studies. There were really four studies that the plaintiffs are relying on, and she explained they were exploratory because they were -- in part because they were in early years -- we'll talk about that in a moment -- they had small numbers, and they failed to properly adjust for other pesticides.

So let's look at the numbers. And everyone agrees the exposed non-Hodgkin's lymphoma cases is the important number, and you need meaningful numbers to make conclusions. And look at the numbers in their studies. I have five studies on here, but I'll talk about that in a moment.

8, 29, 12, 36, 51, small numbers in all the studies. Orsi is on here, but Orsi doesn't support their theory. So Orsi, because it used hospital data, they actually tell you ignore that one. So it's really four studies -- Hardell, Eriksson, De Roos, and McDuffie -- that they tell you to rely on.

And remember the years. Dr. Weisenburger told you the average latency is 20 to 25 years for non-Hodgkin's lymphoma even in his world where it's associated with Roundup.

And so you might recall on the board I did the math with him. He may have become a little frustrated and didn't want to do the math with me. But these are the years of the studies, and you have to look back 20 years before because in that time period farmers who are in these studies are using other

pesticides. And if you want to identify is it Roundup that is causing non-Hodgkin's lymphoma as opposed to whether it's other pesticides or other chemicals, you have to be able to isolate Roundup.

And if these people are using all these other pesticides in the 1960s, 1970s, 1980s, 1950s and '60s and 1970s before Roundup was even on the market or popular, then that's going to complicate the data. That's why you have to adjust. That's that concept of adjustment.

And Dr. Weisenburger admitted -- I think we heard this morning where those stickers were put on the chart that you should ignore adjustments. You don't have to take it from me that adjustment is important. This is what Dr. Weisenburger said about adjustment. He said, he was asked (reading):

"And that's why it's so important to adjust for other pesticides in these studies, correct?

"That's correct.

"Because if you don't adjust for other pesticides, you might not be able to identify what the real data is about Roundup or glyphosate, correct?

"Yes."

It is undisputed that you have to adjust for other pesticides. We also keep hearing, "Well, statistical significance, it's this pesky little thing." I mean, in every study that you saw, statistical significance was part of the

analysis, and it was always the same, 95 percent confidence interval.

And Dr. Weisenburger, again you don't have to take it from me, he was asked why statistical significance was important, why did he bold the statistically significant ones, and his answer was (reading):

> "Well, because I think that one can have more reliance on the numbers if they are statistically significant, okay. There is less chance for random error, okay."

So the concepts of adjustment, statistical significance, those are fundamental concepts that are really not in dispute.

And the same with meta-analysis. This is what Dr. Ritz said about meta-analysis, which is when scientists try to combine data into one study. She says (reading):

> "It's lazy to look at a meta-analysis. That's not what science. That's not what I do. You must go back to the original studies."

And that makes sense. You want to see -- remember, I think, Dr. Mucci may have used the phrase garbage-in/ garbage-out. If you put a bunch of garbage into a meta-analysis, you're only going to get garbage out. That's why you go back to the original studies.

So I have taken the two forest plots -- you saw these forest plots from Dr. Ritz, and she put up all this data. So

this is the first one ever/never. This is people who ever used Roundup, even one day, versus people who never used Roundup; and these were the odds ratios in these plots and whiskers that she tried to show you clearly to try to convince you -- right? -- that Roundup is associated with non-Hodgkin's lymphoma.

But let's take out the adjusted ones. Then you're left with these (indicating). Let's take out the not statistically significant ones. Then you're left with these (indicating). Let's take out the meta-analysis that she said you really shouldn't look at. Then you're left with one number, which is that De Roos study that we heard about this morning.

Let's talk about the De Roos study because this was important. This is the 2.1 that's statistically significant and it was adjusted for 47 other pesticides.

But Dr. Mucci explained why you shouldn't be relying on De Roos. She said (reading):

> "And, again, just to be clear, my concern with this particular study is not only that particular confidence interval, but also the fact that -- the approach that they took for adjusting. When you have only 36 exposed cases, adjusting, whether you you're using logistic or hierarchical, putting 47 pesticides into a model with only 36 cases can cause a lot of problems."

She said you need five cases for everything that you're

using to adjust; and if you have five cases for 47 pesticides -- that doesn't even include if you're adjusting for age and gender and other factors -- you would have needed at least 235 cases to do a proper adjustment in that De Roos study, whether you -- this is the one with the logistic regression and the hierarchical regression. It doesn't matter. It is not properly adjusting and Dr. Mucci explained it to you. So De Roos doesn't answer the question either.

So let's look at this second plot, which is this dose-response. And I just want to pause here for a moment because I think even this morning you were shown data from McDuffie and it was argued that there is this 212 percent dose-response. That number was not adjusted. It wasn't adjusted for other pesticides, and they're putting it up here and not telling you that.

So when you look at this data and do the same analysis, adjust for other pesticides, McDuffie comes out, Eriksson comes out. You take the meta-analysis, that is garbage-in/garbage-out. I think Dr. Mucci explained they combined apples and oranges and pineapples, and it didn't tell you anything.

And then you're left with Andreotti, but they only on this chart took the numbers from Andreotti, the 20-year lag numbers, that they thought helped them. Even those aren't statistically significant.

And I just want to pause. Andreotti is the Agricultural

Health Study from 2018. I think this morning we heard that you have to believe that it somehow protects you; that if you use Roundup, it's better for you. That is not what Andreotti shows. Andreotti shows a risk ratio right around 1, but it's not -- and sometimes it's lower, but it's not statistically significant.

So what it really shows is there's no association between Roundup and non-Hodgkin's lymphoma, and for them to put on a chart that we're arguing that it's protective is just inaccurate based on what you heard in this trial.

Now, let's talk about the NAPP for a moment because even again this morning during when the chart was put up from Dr. Ritz and the numbers were shown, you were called out a number from the NAPP, the North American Pooled Project, and you were told one of the reasons you should believe Dr. Weisenburger is because he was part of the North American Pooled Project.

Well, let's remember how he used the North American Pooled Project. He put one slide up that he claimed supported his theory about dose-response, and I had to have him explain that there were three studies and walk through the tables on this study that show when you adjust for other pesticides, not only do the numbers go down and change, but it doesn't show a dose-response, and he even admitted it (reading):

"Okay. And you showed the one page of the June 2015

deck" --

That's this one (indicating). He showed one page from it. It's this long of a presentation with all of this data in the back that we walked through.

And then I said (reading):

"And you did not show the other pages that did not support your opinion, correct?

"That's correct."

It wasn't just the other pages in the June 2015. It was the pages in the August 2015. It was the pages in the June 2016.

And one of the instructions that you've been read by His Honor is about credibility of witnesses. And I'm not going to walk through and read this instruction to you. You'll each have a copy of it in the back.

But you are allowed to consider what Dr. Weisenburger did with the NAPP, you're allowed to consider what Dr. Ritz did with her Introduction to Cohort Studies 200 level class at her university, when they tried to cherrypick pages and data from their own presentations and not tell you the full story, and that we had to bring out the full story and all of the data. Does that tell you about -- what does that say to you about the opinions they have come in here and offered to you?

And what is the data again about Roundup? What is the human data? The human data shows over 44,000 people, 1 percent

of them, 435, had non-Hodgkin's lymphoma after the 2018 publication after 20 years. General population in that same time frame, 1 percent. That's how many people developed non-Hodgkin's lymphoma.

The same with the SEER data. If the increase in the '90s were resulting in the problem that they claim is happening, that bottom line of incidence of non-Hodgkin's lymphoma would be very different.

And who is the only person that they brought in here to tell you that the question you have to answer was Roundup a substantial contributing factor in Mr. Hardeman's non-Hodgkin's lymphoma? The only person that they've brought you was a pathologist, not an oncologist. He's never told a patient that Roundup or glyphosate caused his or her non-Hodgkin's lymphoma. He's never gone to another pathologist. He's never gone to another oncologist. He's never written in a pathology report at City of Hope, and he has never used his method with non-Hodgkin's lymphoma to identify the cause of a patient's non-Hodgkin's lymphoma.

And you saw this instruction. It was put up this morning and parts of it were highlighted, and I want to read through the whole instruction too, but I highlighted the parts that were not highlighted when you saw it this morning.

So this is the instruction that tells you about whether something is a substantial contributing factor (reading):

"To prevail on the question of medical causation, Mr. Hardeman must prove" -- again the burden is on Mr. Hardeman -- "by a preponderance of the evidence that Roundup was a substantial factor in causing his non-Hodgkin's lymphoma. A substantial factor is a factor that a reasonable person would consider to have contributed to the harm. It must be more than a remote or trivial factor. It does not have to be the only cause of the harm. Subject to the additional instructions below, conduct is not a substantial factor in causing the harm if the same harm would have occurred without that conduct."

So if Mr. Hardeman would have developed non-Hodgkin's lymphoma even if he had never used Roundup, then they can't meet their burden.

The instruction goes on (reading):

"The following additional instructions apply if you believe that two or more non-Hodgkin's lymphoma-causing factors operated independently on Mr. Hardeman:"

And you were highlighted this part (reading):

"If you conclude that Mr. Hardeman has proven that his exposure to Roundup was sufficient on its own to cause NHL, then you must find for Mr. Hardeman even if you believe that other factors were also sufficient on their own to cause his non-Hodgkin's lymphoma."

So I just want to pause there for a moment because you

have heard, for example, about Roundup and hepatitis C, but let's be clear. The case that they have presented to you through Dr. Weisenburger is that it's Roundup and Roundup only. No one has come into this courtroom and told you that it could have been both.

And so don't be confused by this language. They have to prove that Roundup was sufficient on its own to cause non-Hodgkin's lymphoma, and that's how the paragraph really ends (reading):

> "On the other hand, if you conclude that Mr. Hardeman has not proven that his exposure to Roundup was sufficient on its own to cause his non-Hodgkin's lymphoma, then you must find for Monsanto."

So really you have to believe Dr. Weisenburger. Dr. Weisenburger is the only person who has come in and said this; and Dr. Weisenburger, his methodology, his actions outside of this courtroom do not stand the test.

And it's not just that you can consider Dr. Weisenburger. You also have to consider all the evidence, of course, including Dr. Levine, which I will get to in a moment.

On the substantial factor test again, he was asked the question that relates to whether or not this could have occurred without Roundup (reading):

> "You would agree that Mr. Hardeman could have been diagnosed with the exact same diffuse large B-cell

lymphoma without exposure to Roundup, true? And your answer was, it's possible; right?

"It is possible."

That's Dr. Weisenburger's testimony. Again, how is Roundup being treated outside this courtroom? These are Mr. Hardeman's doctors and what they did, and I won't read through this again because I've shown it to you, but Roundup did not factor into their treatment whatsoever.

And so I want to finish -- I'm almost at the end -- with Dr. Levine because I think we heard today that Dr. Levine is paid by Monsanto; and the suggestion is that because she's paid by Monsanto, that somehow she came in here and gave you opinions that you shouldn't value.

First of all, all of the experts are paid. You heard a stipulation that was read following Dr. Ritz's testimony. Every single expert on both sides that you heard from is paid: Dr. Ritz, Dr. Portier, Dr. Weisenburger, Dr. Levine, and Dr. Arber.

But if they are attacking the integrity of Dr. Levine, I mean, Dr. Levine has been practicing for 40 years, and you saw the work that she's done around the world. You've seen the recognition that she's done. And at 74 she cannot give up taking care of patients with non-Hodgkin's lymphoma because that's how much it means to her to help people, including trying to identify the causes of non-Hodgkin's lymphoma by

hepatitis C.

And what did Dr. Levine tell you yesterday? She said she would want to know the cause. She said she reviewed the literature and Roundup does not cause non-Hodgkin's lymphoma. She said Roundup did not cause or contribute to Mr. Hardeman's non-Hodgkin's lymphoma. She said hepatitis C is the most likely cause. Hepatitis B is the second-most likely cause, but you cannot rule out idiopathic.

And she said she would never use Dr. Weisenburger's method. She's the one he said you should listen to. She's the clinician, she's the oncologist, and she said she would never use Dr. Weisenburger's method to determine the cause of a patient's non-Hodgkin's lymphoma outside of this courtroom.

And so lawyers hate not to have the last word, but I don't get the last word. Because the plaintiff has the burden, Ms. Wagstaff at the end will be able to stand up briefly and talk to you again; but as she does that, these are some of the things that you should be asking yourself. Because what is it that you have to believe to rule for the plaintiff, to say that the plaintiff has met his burden? What are they telling you?

First of all, they're telling you the National Cancer Institute is wrong. It's wrong when it says in 2005 and 2018 that Roundup and glyphosate are not associated with non-Hodgkin's lymphoma. They're wrong when they run all of those validations and issue all of those publications telling

you why their publication is an important and valid one.

They're telling you that age and the size of studies don't matter. They're saying rule for us based on four studies that date back -- where the exposure dates back to the 1950s and '60s, and use was in the '70s and '80s and maybe '90s with small numbers of people, that's what you should use to decide the question.

They're telling you Mr. Hardeman's other risk factors don't matter. They're saying ignore hepatitis C, ignore the 39 years where active mutations could have occurred during that hit-and-run, ignore hepatitis B, ignore age, ignore weight.

They're telling you real-world medical practice doesn't matter. I mean, you have now heard from doctors at University of Chicago, Kaiser here in California, City of Hope, and Roundup does not impact their practice outside of the courtroom, but they are telling you that you should make a decision that is different because of what Dr. Weisenburger came and did in here.

And they're telling you what their experts do outside doesn't matter. It doesn't matter that Dr. Weisenburger doesn't tell his patients, doesn't use that method, and doesn't tell other oncologists or pathologists.

They have not met their burden, and so I will say you have been a remarkably patient and attentive group over the last two weeks, and very shortly you will get to go back and start your

deliberations. We thank you for your time and attention, but the answer to the question "Was Roundup and did Mr. Hardeman prove that Roundup was a substantial contributing factor in his non-Hodgkin's lymphoma," the answer is no.

Thank you.

THE COURT: Okay. Thank you.

Why don't we take a short break. We'll resume at 2:00 o'clock sharp with rebuttal.

(Proceedings were heard out of the presence of the jury:)

THE COURT: Okay. Anything to discuss before I step down?

MS. WAGSTAFF: No, Your Honor. By my calculations, I have about 24 minutes of rebuttal. I won't take that long, but I just wanted to, for your own --

THE COURT: By my calculations, you have 22 minutes.

MS. WAGSTAFF: Oh, okay. Thanks.

THE COURT: And given how long it's gone, I really don't think you should go over that.

MS. WAGSTAFF: Yeah.

THE COURT: All right.

(Recess taken at 1:52 p.m.)

(Proceedings resumed at 2:01 p.m.)

(Proceedings were heard out of the presence of the jury:)

THE COURT: Okay. Go ahead and bring in the jury.

(Proceedings were heard in the presence of the jury:)

THE COURT: Okay. Welcome back.

Ms. Wagstaff, you can resume.

REBUTTAL ARGUMENT

MS. WAGSTAFF: Okay. The home stretch. I have about 20 minutes with you guys so it won't take too long.

If we could have the Elmo, please.

So I want to be very clear with what I started with, and that is I think you never heard me during closing arguments or any of our experts say that we are only relying on one piece of evidence. I don't think you've heard one of our experts testify that the animal data alone proved causation. I don't think you heard any of our experts say that the epidemiological evidence alone proved causation, or even whether the mechanistic data alone proved causation.

I think what you heard all of our experts say is that put together, there are pieces of the puzzle that must be considered together. So when Mr. Stekloff was just arguing that Dr. Portier agreed that you don't use I don't remember if it was animal data or mechanistic data to prove causation, that may be true; but when you put them all together, that is when you get causation.

And they went through a couple of things that I just really wanted to make sure I clarified with you. One is -- and this was brought up twice so I'm guessing it's pretty important -- this was a quote that he put up on his board.

This was asking Dr. Weisenburger during the cross-examination here in the court (reading):

"So you would you agree that Mr. Hardeman could have been diagnosed with the exact same diffuse large B-cell lymphoma without exposure to Roundup?"

He stopped with "It's possible." He didn't show you the rest of that line (reading):

"Not as likely but it is possible."

And if you remember his inflection in his voice, and this what --

MR. STEKLOFF: Your Honor, I object because the testimony goes on.

THE COURT: Overruled.

MS. WAGSTAFF: And so if you remember, the judge instructed you about reading words on a paper, and your recollection of actually the nonverbal and the inflection and all of that trumps whatever you would read on a paper.

And if you recall when he was testifying, he was, like, "It's possible." And so if you remember that, just remember how this was said and remember you that you just were not given the full quote right there.

Next, next, Mr. Stekloff made a big deal about the fact that the Kaiser doctors didn't warn, that the Kaiser doctors somehow suggested that there's no causation because they didn't warn.

What you weren't told, what you weren't reminded of is testimony that came in, and this was -- there were three doctors: Dr. Turk, Dr. Ye, and Dr. Turley. And Dr. Turley was the pathologist that just pulled out stuff from his neck, and so we didn't really get into causation with him. He was the ENT. And then you had Dr. Turk, who was his family doctor, and then you had Dr. Ye that was his oncologist.

And this was me asking Dr. Ye (reading):

"Have you ever read any of the scientific literature, the epidemiology peer-reviewed literature, the toxicology reports, or anything at all that relates exposure to Roundup or glyphosate to non-Hodgkin's lymphoma?

"No, I have not.

"You haven't. So, therefore, you have no opinion one way or the other because you haven't read the literature?

"Yeah."

And then he said (reading):

"I don't -- a particular -- I don't have a particular opinion on that."

And I said (reading):

"So with respect to the literature, the body of literature that discusses whether or not exposure to Roundup or glyphosate causes non-Hodgkin's lymphoma, you would have to defer to someone who's actually read the literature?

"Correct."

When asked, Dr. Turk, the family practitioner (reading):

"So would it be fair to say that with regard to an opinion as to whether or not Roundup caused Mr. Hardeman's non-Hodgkin's lymphoma, given that you haven't read the literature, you would defer to an expert who has read the literature; is that fair?

"Yes."

Next I'd like to talk about this concept that Dr. Weisenburger would assign that Roundup is a cause at any dose. And, first of all, I think that the evidence has shown that Mr. Hardeman's dosage was extreme. He had 26 years of exposure almost on a monthly exposure, three to four hours a month, for seven or eight months of every year. I think that that is very extreme.

And what he did highlight when he was telling you was that Dr. Weisenburger said, "I have to weigh each case individually." And what he did was, then, he explained to you the whole impeachment and brought up other testimony from other times.

What they did was they were asking him hypotheticals; right? And then they would bring in and then they would try to see if he changed his mind. And so he would say, "Well, I have to weigh each case individually." You saw that language. It wasn't really highlighted or bolded or anything, but it was on

the slide. Dr. Weisenburger was saying, "I can't do hypotheticals. I have to weigh each case individually."

And so then if you notice talking -- if you notice what happened when Monsanto's experts came in, all three of them -- Dr. Mucci, Dr. Levine, and Dr. Arber -- they each had pre-made PowerPoints. When their attorney said, "What are your opinions?", they would look down on the screen and say, "My opinion is blah, blah, blah," and read it word for word off the screen. You can take that into account when you're considering the credibility and the reliability of experts' opinions.

Next I wanted to show you this from the -- if I could turn this on?

Mr. Stekloff just showed you this, and it was shown to you in opening statement as well. All right. I didn't have a copy of this when I was putting Ritz on the stand so I drew it. Do you remember? This is actually the same slide that I drew. I said, "They used something and they went like this."

And I asked her, I said, "Does this have anything to do with dose-response?" She said, "Absolutely not." So I crossed out "dose" because I didn't have a copy of this.

Then we got a copy of this, and we actually showed it to Dr. Weisenburger, and we asked Dr. Weisenburger, "What's going on here? What's going on with this chart?" And he told you. The word he used was "misleading." He said, "It would be misleading to rely on this on the way that Monsanto is."

And then you know who didn't see it? Not one of Monsanto's witnesses. We showed it to both of ours and, remember, we couldn't show it to Dr. Portier because his deposition -- his trial testimony was taken before opening statement. So we showed it to both of ours. One says it has nothing to do with dose. The other one says it's misleading. And they didn't show it to one of their experts, and they come in here and argue it to you again.

Then I want to take a moment to talk about this slide, and this slide Ritz testified --

THE COURT: Can we have a sidebar for a minute?

(The following proceedings were heard at the sidebar:)

[redacted]

(The following proceedings were heard in open court:)

THE COURT: Can you go one slide back? Go one slide back, please.

Okay. Ladies and gentlemen of the jury, I'm going to instruct you to disregard that last bit of argument about this slide. Ms. Wagstaff argued that -- placed blame on two of the experts for not using this chart. That was beyond the scope of their testimony.

So if Monsanto had attempted to use this chart with them, I would have shut Monsanto down. So Monsanto was simply following the rules by not presenting this chart to those two experts.

So you're instructed to disregard that last bit of argument.

MS. WAGSTAFF: All right. Monsanto did not show this chart to Dr. Mucci, who was here to testify as to whether or not exposure to Roundup could lead to non-Hodgkin's lymphoma. She was not shown this, this chart.

Next I want to talk a little bit about these case controls. And Dr. -- or Mr. Stekloff attacked these case controls based on the years that the cancers were determined, and he said that you have to go back 20 years based on what Dr. Weisenburger said. However, Dr. Weisenburger, if you will recall, had a bell curve and he gave explicit testimony about this.

And the 20 years was the median, and there was an up

slope. And so that's actually not that accurate that he said 20 years. So I just want you to remember that when you're back there deliberating.

And as I wrap up this Phase I of this case, I want to thank you guys again for all of your attention. And I want to remind you that when you're considering something as important as what you're going to be considering in the next few minutes, that you look at all of the data, that you look at the animal studies, that you look at the mechanistic studies, that you look at Roundup, and that you look at that it's different than glyphosate.

And I want you to remember that Zhang article that just recently came out that also considered all of that data, and the Zhang article included the AHS. The Zhang article that came out in February of 2019, a month ago, included all that.

And so I thank you in advance and Mr. Hardeman thanks you very much as well. So thank you.

THE COURT: Okay. Thank you.

So, ladies and gentlemen of the jury, you can now retire to the jury room and begin your deliberations. Thank you.

(Jury beginning deliberations at 2:13 p.m.)

(Proceedings were heard out of the presence of the jury:)

THE COURT: Okay. So I was just reminded of something, which is I raised a concern earlier that the jurors might ask for the studies, and I posed a question to you-all

about whether you thought it would at least be fair to send back the portions of the studies that you called out. Did you give any consideration to that?

MR. STEKLOFF: We have, Your Honor. We oppose. I think in part not knowing that ahead of time, we weren't able to show all of the portions, and so -- and then also I think it is -- and that's part of our concern.

I mean, for example, I think a lot more was shown even with Dr. Ritz particular parts of studies, and so I think it's the timing.

I'm not -- in future trials I still don't know that we would agree, to be clear, but I worry about sending cherrypicked.

I mean, part of the reason of the rule on learned treatises is because they're complicated scientific studies, and I think these jurors have been taking good notes; but sort of for all those reasons, we oppose.

THE COURT: Okay.

MS. WAGSTAFF: We oppose as well.

THE COURT: Okay. Well, that makes it --

MS. WAGSTAFF: In case you were wondering.

THE COURT: Finally something we can agree on.

Oh, no, the other thing you-all agreed on was that I should not have a court-appointed expert --

MS. WAGSTAFF: Yep.

THE COURT: -- to assist me with the science.

Okay. I mean, I think we have to get to work pretty quickly on some of the Phase II issues. So obviously you should go and chill for a little bit, but what -- I mean, we've got some outstanding issues with the experts for Phase II; right? And then we have the issue of depo designations.

MS. MOORE: Right.

MS. WAGSTAFF: So similar to Phase I, Your Honor, when we agreed that if we didn't call Sawyer, they wouldn't call Sullivan. We have that agreement now. I'm not sure that we've pulled the trigger on that yet, though.

So with the outstanding *Daubert* motions, which I think Benbrook would probably be who we would request you look at first --

THE COURT: Okay.

MS. WAGSTAFF: -- you can maybe put Sawyer to the bottom of the pile.

THE COURT: Okay.

MS. WAGSTAFF: Is that fair?

MR. STEKLOFF: It is. I did tell Ms. Wagstaff yesterday that if they do not call Sawyer, we will not call Sullivan, and then she said they hadn't made a final decision on Sawyer, but I agree on the construct.

THE COURT: Okay. And are there any other -- other than Benbrook, Sawyer, and Sullivan, are there any other

outstanding expert issues for Phase II?

MS. WAGSTAFF: So we have called -- we have identified Mills, who is our damages expert.

I'm not sure if you guys -- I can't even remember if you wrote a *Daubert* on him or not.

MS. MOORE: They did.

MR. STEKLOFF: We did.

MS. WAGSTAFF: Okay.

MR. STEKLOFF: I think if Your Honor could rule on that, it would be useful; and then we can figure out how to address -- depending on your ruling, how to address, I think, sort of it relates to like net worth-type calculations and issues. But I do think we --

THE COURT: What did I rule -- I ruled on something relating to that, but it wasn't the Mills.

MS. WAGSTAFF: You said -- it was a *motion in limine* and it was talking about Bayer, and you said we can use it as it relates to punitive damages.

THE COURT: Right. Okay.

MR. STEKLOFF: I think we have a challenge to Dr. Mills' -- I think Dr. Mills is the identified expert here, and we have a challenge to his methodology.

THE COURT: Okay. So Benbrook and Mills I should be focusing on.

And then --

MS. WAGSTAFF: I can tell you who we plan to call live if you'd like that.

THE COURT: That would be helpful.

MS. WAGSTAFF: Okay. So Mr. Hardeman will testify live.

THE COURT: Do you plan for him to go first?

MS. WAGSTAFF: Not necessarily.

THE COURT: Okay.

MS. WAGSTAFF: Mrs. Hardeman, we plan to have her testify.

THE COURT: Okay.

MS. WAGSTAFF: Dr. Benbrook, Dr. Nabhan.

THE COURT: Nabhan for Phase II?

MS. WAGSTAFF: Yeah, prognosis and damages.

THE COURT: Oh. So Mr. Hardeman, Mrs. Hardeman, Benbrook, Nabhan.

MS. WAGSTAFF: And Mills.

THE COURT: Okay.

MS. WAGSTAFF: And then I think maybe Sawyer, but put a question mark by Sawyer.

THE COURT: Okay. So those are live witnesses.

MS. WAGSTAFF: And we are hoping to bring Dr. Benbrook Friday.

THE COURT: Okay. So that should be number one on my list.

MS. WAGSTAFF: Right. He has plans to go --

THE COURT: I've read the briefs and stuff. I just kind of put it aside, and so I just need to dive back into it.

MR. STEKLOFF: I also think, Your Honor, there's that design defect brief about what -- both parties submitted briefs about whether it's the risk-benefit or which test applies essentially to the design defect claim, which I think will impact even, for example, opening depending on your ruling.

THE COURT: Right. Right. Right. So that should be number one.

And as of now, based on what I've looked at so far, I'm not sure I need to hear any further argument on that, but I'll let you know if I do.

You need to be close by the courtroom anyway so we can spend some quality time together talking about these issues.

So what about video deposition testimony?

MS. WAGSTAFF: So we've exchanged all of that. I think we filed it all with you.

THE COURT: Yes, but it came with the same caveat that it often came with in Phase I, which is that "We are continuing to work to pare this down." So it wasn't clear to me whether I should be looking at any of that stuff that you filed on Sunday.

MS. WAGSTAFF: So I believe Your Honor entered an order telling us by close of business today, or maybe it was an

e-mail that we received from you, saying to tell you the top two to three depositions by close of business today. So we have two and a half hours to get that to you.

THE COURT: Okay. Well, so I will start looking at this stuff. I think, you know, be prepared -- you know, like I said, I'm not sure I need argument on the design defect thing, I'm not sure I need argument on Benbrook, and I'm not sure I need argument on Mills. It may be that I just issue an order tomorrow or something like that, but be ready to argue those things if I need argument.

MR. STEKLOFF: Do you know, Your Honor, if the jurors are -- maybe we'll know because we haven't found out yet, but are they staying past 2:30 today? Do we know what their plan is, or do we have to wait to see?

THE COURT: Kristen, do you know?

THE CLERK: I will go back and find out who the foreperson is, and then I'm also going to find out what their schedule will be.

MR. STEKLOFF: Okay.

THE COURT: Okay.

MS. WAGSTAFF: Just one more question. If we get a verdict in favor of Mr. Hardeman and we need to go to Phase II, will we have, like, an hour or is there going to be a point tomorrow where it's a no-go? I'm just trying to plan.

THE COURT: Yeah, there will probably be a point

tomorrow where it's a no-go.

MS. WAGSTAFF: Would it be after lunch?

THE COURT: Yeah. I think that's a reasonable cutoff point. So if the lunch hour hits and they haven't reached a verdict on Phase I yet, then you can plan on waiting until Friday to do your openings on Phase II.

MS. WAGSTAFF: Okay. And so is the expectation that we are here in the courtroom just ready to go tomorrow at the beginning of the day?

THE COURT: No. Just be close by starting at 8:30.

MS. WAGSTAFF: Okay.

THE COURT: And we'll obviously be in touch if there's a jury question or a verdict, and we'll also be in touch if I need to hear argument on one of these things.

MS. WAGSTAFF: Okay. Excellent.

MR. STEKLOFF: And then just while the record is open, I think -- they are not ready yet, but the parties have agreed that we should submit as marked exhibits just the run plays from all the deposition designations that were played so that they're in the record, not that they would go back to the jury. So I think we're going to work on making sure we agree that they exist, and then we'll coordinate with Ms. Melen so they're in the record.

THE COURT: Okay. Very good. We'll see -- I assume I'll see you tomorrow, but Kristen will let you know what

the --

MS. WAGSTAFF: Have you already gone back yet, and I just didn't notice it?

THE CLERK: Yes.

MS. WAGSTAFF: Oh, you did?

THE COURT: You did?

THE CLERK: No. Not since --

THE COURT: Not since we've had this exchange, yeah.

MS. WAGSTAFF: I swear I've been watching you.

I might -- could you let us know before we leave? Because if they're going to stay till 5:00, maybe we'll stay till 5:00, too.

THE CLERK: Yeah.

THE COURT: If they're going to stay till 5:00, you definitely should stay till 5:00.

THE CLERK: Hang out for a few minutes, and I'll go check with them right now.

Also, if you could write down your cell phone numbers, please.

MS. MOORE: Oh, sure.

(Recess taken at 2:22 p.m.)

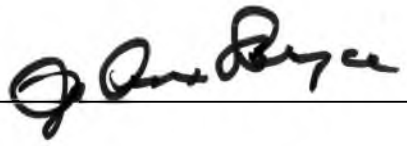
(Jurors left for the day at 4:00 p.m.)

---oOo---

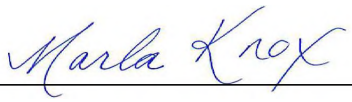
CERTIFICATE OF REPORTERS

I certify that the foregoing is a correct transcript from the record of proceedings in the above-entitled matter.

DATE: Tuesday, March 12, 2019



Jo Ann Bryce, CSR No. 3321, RMR, CRR, FCRR
U.S. Court Reporter



Marla F. Knox, RPR, CRR
U.S. Court Reporter