

STATE OF MICHIGAN
COURT OF APPEALS

LEO TONDREAU, Personal Representative of the
Estate of SANDRA PEETZ,

UNPUBLISHED
October 8, 2015

Plaintiff-Appellant,

v

No. 321514
Macomb Circuit Court
LC No. 09-002913-NH

HENRY FORD MACOMB HOSPITAL, a/k/a
HENRY FORD MACOMB HOSPITAL-
CLINTON TOWNSHIP CAMPUS,

Defendant,

and

SACHINDER S. HANS, M.D., P.C.,
SACHINDER S. HANS, M.D., LI ZHANG, M.D.,
and MACOMB ANESTHESIA, P.C.,

Defendants-Appellees.

Before: GADOLA, P.J., and JANSEN and BECKERING, JJ.

PER CURIAM.

In this medical malpractice action, which is before this Court for a second time, plaintiff appeals as of right from the trial court's order granting defendants' motion for summary disposition under MCR 2.116(C)(10). For the reasons below, we affirm in part, reverse in part, and remand for further proceedings.

I. FACTUAL AND PROCEDURAL BACKGROUND

This case arises out of the death of 67-year-old Sandra Peetz after she underwent a carotid endarterectomy (CEA), a procedure to remove build up from the carotid artery walls, on December 6, 2007. Dr. Hans is the vascular surgeon who performed the procedure, and Dr. Zhang is the anesthesiologist. At 7:25 a.m. on the morning of surgery, Peetz received a cervical block and the procedure began at 7:44 a.m. At 8:00 a.m., Peetz's blood pressure was recorded at 200/98, and Dr. Hans clamped her carotid artery at 8:08 a.m. At 9:05 a.m., Peetz received blood pressure medication, which lowered her blood pressure to 180/112, but it rose again to 190/80 by

9:45 a.m. During the CEA, Dr. Hans determined that Peetz's artery blockage was more extensive than expected, and requested that Peetz be fully anesthetized for the remainder of the surgery. The operation ended at 10:50 a.m., at which time Peetz's blood pressure was 175/60.

Peetz was taken to the recovery room at 10:55 a.m., where her blood pressure was recorded at 192/96. At 12:15 p.m., Dr. Hans assessed Peetz's condition and noted certain neurological symptoms that were consistent with a stroke. By 12:45 p.m., Peetz was responsive to name, but was unable to follow commands. Shortly thereafter, Dr. Hans ordered emergency exploratory surgery to determine the cause of the symptoms.

During the emergency surgery, Dr. Hans did not discover any lesions, clotting, or embolism, but inserted a stent out of caution. The procedure ended at 3:45 p.m. and Peetz was returned to the recovery room. When Dr. Hans did not see improvement, he ordered a brain CT scan at 4:57 p.m. Peetz was taken in for the scan at 6:30 p.m., and it was performed at 6:42 p.m. Dr. Kyoung Soo Bae interpreted Peetz's CT scan and stated that it revealed the presence of a chronic subdural hematoma with acute hemorrhage and subarachnoid bleeding. As the subdural hematoma expanded, it compressed Peetz's brain and caused death by shifting the brain to such an extent that it herniated the brainstem. At 7:45 p.m., Peetz was placed on mechanical ventilation and taken to the intensive care unit. Life support was withdrawn the next morning.

On June 22, 2009, plaintiff filed a medical malpractice complaint against Henry Ford Macomb Hospital, Dr. Hans, Sachinder S. Hans, M.D., P.C., Dr. Zhang, and Macomb Anesthesia, P.C.¹ Depositions were taken of plaintiff's causation and standard of care witnesses, Dr. Wayne Flye and Dr. Donald Austin. Dr. Flye testified that Peetz's physicians breached the standard of care by failing to (1) use a shunt during the period Peetz was unconscious during the CEA, (2) order a brain CT scan immediately after the second surgery when Dr. Hans could not determine the cause of Peetz's neurological symptoms, and (3) control Peetz's blood pressure after unclamping her carotid artery.

Dr. Flye described plaintiff's cause of death as "compression of the brain and herniation of the brain stem" resulting from "a subdural hematoma and . . . swelling of the left hemisphere." Dr. Flye opined that the bleeding began because Peetz's brain became less turgid during the CEA, causing it to pull away from the skull and tear blood vessels across the dural space. Dr. Austin described Peetz's condition as a "low density subdural hematoma with a superimposed high density subdural hematoma and a subarachnoid hemorrhage." At his deposition, Dr. Austin also opined during an exchange with Dr. Hans's attorney that the brain bleed occurred because Peetz's brain had inadequate blood flow during the CEA, which caused it to retract from the dura and tear blood vessels:

¹ On April 7, 2014, the trial court approved a partial settlement between plaintiff and Henry Ford Macomb Hospital. The Court reserved the limited issue of "distribution among interested persons and the issue of conscious pain and suffering for a separate hearing or stipulation."

Q. All right. If I understand you correctly, you were saying that the brain, as a result of hypoperfusion, began to retract and/or tear itself away from the skull?

A. From the inner surface of the dura.

Q. From the inner surface of the dura.

A. Yes.

Q. And that started a bleed?

A. Right. What happened was that the brain began to retract and the bridging veins from the brain to the superior sagittal sinus were torn.

Q. Okay. And then there was an episode or the development of hypertension and that caused a bleed and that was made worse by the Heparin?

A. Yes, and persistent hypertension.

Defendants filed a motion to exclude the expert testimony of Dr. Flye and Dr. Austin. Defendants claimed that there was no clinical or scientific evidence to support the experts' causation theory that lack of blood flow to the left hemisphere of Peetz's brain during surgery "caused the brain to retract and tear away from the dura," causing the initial bleed, and that subsequent reperfusion of the carotid artery infused the vessels with more blood, resulting in a subdural hematoma, brainstem herniation, and ultimately death. The trial court denied defendants' motion, concluding that the testimony satisfied the requirements of MRE 702 and MCL 600.2955 because the opinions were based on "vast experience, training, education, and general neurosurgical knowledge," despite the fact that neither of plaintiff's experts had ever personally encountered such a situation.

Defendants then filed an application for leave to appeal the trial court's decision to this Court, which was denied. *Tondreau v Henry Ford Macomb Hosp*, unpublished order of the Court of Appeals, entered May 26, 2011 (Docket No. 300026). Defendants appealed this Court's order to the Michigan Supreme Court, which issued an order remanding the case to this Court for consideration as on leave granted. *Tondreau v Henry Ford Macomb Hosp*, 490 Mich 988; 807 NW2d 164 (2012). On March 14, 2013, this Court issued an opinion on the matter. *Tondreau v Henry Ford Macomb Hosp*, unpublished opinion of the Court of Appeals, issued March 14, 2013 (Docket No. 300026). In its opinion, the Court described plaintiff's causation theory as follows:

It is plaintiff's causation theory that Peetz's subdural brain bleed began shortly after Dr. Hans clamped Peetz's left carotid artery. Because the clamp dramatically decreased blood flow to the left cerebral hemisphere, the volume of Peetz's left brain contracted slightly. Small "bridging" veins in the subdural space tore as the brain sagged away from the skull. The bleeding from these veins accelerated when Dr. Hans re-established flow through the left carotid at an elevated pressure and concomitantly administered heparin, an anticoagulant drug. [*Tondreau*, unpub op at 3.]

The Court concluded that Dr. Austin's and Dr. Flye's causation testimony met the requirements of MRE 702 and MCL 600.2955, and therefore could not be excluded, for the following reasons:

[T]here is an evidentiary basis in fact to support plaintiff's experts' testimony. Plaintiff provided literature establishing that a change in the volume of the brain can cause a tearing of bridging veins. The fact that none of these occurrences was reported as a result of a CEA procedure does not diminish the salient point—that a change in brain volume can cause bridging veins to tear. Regarding what caused Peetz's brain to reduce in volume, Dr. F[l]ye explained that it is well-known that soft organs, such as livers, get less tense or less turgid, i.e., more relaxed, when they are under-perfused. Thus, Dr. F[l]ye's hypothesis that what occurred in the liver was also likely to occur in the brain is based in scientific fact and not mere speculation. . . . [N]o presented literature contradicted the assertion that brains or soft organs reduce in volume while they are under-perfused. Thus, we conclude that the trial court did not abuse its discretion when it determined that plaintiff's experts' testimony was based on sound scientific principles, and consequently, the testimony should not be precluded. [*Tondreau*, unpub op at 7.]

Defendants filed an application for leave to appeal to our Supreme Court. On September 25, 2013, the Supreme Court reversed this Court's opinion in the following order:

On order of the Court, the application for leave to appeal the March 14, 2013 judgment of the Court of Appeals is considered and, pursuant to MCR 7.302(H)(1), in lieu of granting leave to appeal, we REVERSE the judgment of the Court of Appeals. The plaintiff's experts Wayne Flye, M.D., and Donald C. Austin, M.D., are of the opinion that the chronic subdural hematoma suffered by Sandra Peetz was caused by the carotid endarterectomy performed by the defendants. While peer-reviewed, published literature is not always necessary to meet the requirements of MRE 702, in this case the lack of supporting literature, combined with the lack of any other form of support for these opinions render the opinions unreliable and inadmissible under MRE 702. *Edry v Adelman*, 486 Mich 634, 641[; 786 NW2d 567] (2010). We REMAND this case to the Macomb Circuit Court for further proceedings not inconsistent with this order. [*Tondreau v Sachinder S Hans, MD, PC*, 495 Mich 860; 836 NW2d 691 (2013).]

On remand, defendants filed a motion to exclude the opinion testimony of Dr. Austin and Dr. Flye and for summary disposition pursuant to MCR 2.116(C)(10). Defendants argued that the Supreme Court's order prevented plaintiff from offering any testimony that the CEA caused the bleeding around Peetz's brain, which ultimately caused her brainstem to herniate. They argued that any theory concerning failure to control blood pressure was wholly dependent on the preexistence of torn blood vessels allowing blood to escape into the spaces surrounding Peetz's brain. Defendants further contended that any theory regarding failure to obtain a CT scan immediately after Peetz's second surgery was improper because by that time, Peetz's brain was already hemorrhaging, which is fatal in most cases.

On April 10, 2014, the trial court granted defendants' motion for summary disposition with respect to each of plaintiff's causal theories. The court concluded that plaintiff's theories concerning the excess blood accumulated around Peetz's brain all relied on the premise that her brain retracted and severed blood vessels during the CEA, a theory which the Supreme Court rejected. The court also rejected plaintiff's theory that failure to perform a timely CT scan after the second surgery caused Peetz's death. The court cited medical literature indicating that once cerebral hemorrhaging occurs, it is almost always fatal, and noted that MCL 600.2912a(2) bars recovery in a medical malpractice action for an opportunity to survive unless that opportunity was greater than fifty percent.

II. STANDARD OF REVIEW

We review de novo a motion for summary disposition under MCR 2.116(C)(10), which tests the factual sufficiency of a claim. *West v Gen Motors Corp*, 469 Mich 177, 183; 665 NW2d 468 (2003). In reviewing such a motion, we consider any evidence submitted by the parties in a light most favorable to the nonmoving party to determine whether a genuine issue of material fact exists. *Id.* If no genuine issue with respect to any material fact exists, the moving party is entitled to judgment as a matter of law. *Veenstra v Washtenaw Country Club*, 466 Mich 155, 164; 645 NW2d 643 (2002).

III. ANALYSIS

To prevail on a medical malpractice claim, a plaintiff must establish the following four elements: "(1) the appropriate standard of care governing the defendant's conduct at the time of the purported negligence, (2) that the defendant breached that standard of care, (3) that the plaintiff was injured, and (4) that the plaintiff's injuries were the proximate result of the defendant's breach of the applicable standard of care." *Kalaj v Khan*, 295 Mich App 420, 429; 820 NW2d 223 (2012). Expert testimony is required to establish both causation and a breach of the standard of care. *Teal v Prasad*, 283 Mich App 384, 394; 772 NW2d 57 (2009). Expert testimony may not be based on mere speculation, and there "must be facts in evidence to support the opinion testimony of an expert." *Id.* at 395 (citation and quotation marks omitted); see also MRE 702. Further, "to recover for the loss of an opportunity to survive or an opportunity to achieve a better result, a plaintiff must show that had the defendant not been negligent, there was a greater than fifty percent chance of survival or of a better result." *Dykes v William Beaumont Hosp*, 246 Mich App 471, 477; 633 NW2d 440 (2001); see also MCL 600.2912a(2).

Plaintiff first contends that the trial court applied an overly broad interpretation to the Michigan Supreme Court's order when granting defendants' motion for summary disposition. Plaintiff asserts that the Supreme Court's order only prevented the experts from testifying that the CEA caused a "chronic" subdural hematoma. Plaintiff asserts that Dr. Flye and Dr. Austin did not testify that Peetz suffered from a "chronic" subdural hematoma.

Although plaintiff may be correct that the phrase "chronic subdural hematoma" does not perfectly describe the complication that ultimately resulted in Peetz's death, considering the context, that terminology was likely the best description of Peetz's complication. The radiologist, Dr. Bae, interpreted Peetz's CT scan as follows:

The CT scan of the brain without intravenous contrast media demonstrates a large subdural collection of blood and fluid on the left side. It measures 1.8 cm in width. *It appears to be a chronic subdural hematoma with acute hemorrhage. There is subarachnoid bleed at the left parietal and occipital area.* There is marked midline shift to the right, about 2 cm. *There is also subarachnoid bleed along the falx cerebri. There is subarachnoid bleed at the basal cisterns.* [Emphasis added.]

Dr. Austin described Peetz's complication as a "low density [less acute blood] subdural hematoma with a superimposed high density [more acute blood] subdural hematoma and a subarachnoid hemorrhage." Likewise, Dr. Flye described Peetz's condition as "a subdural hematoma and . . . swelling of the left hemisphere." When asked whether he disagreed with the radiologist's interpretation of Peetz's condition as a "chronic subdural hematoma," Dr. Flye stated that he would defer to the radiologist, and believed the description of Peetz's subdural hematoma as "chronic" was used because

some blood looked older by its appearance on the CT than some of the other, and I think that's what he was talking about in terms of chronic versus acute, because we know that there was no subdural there, oh, five/six months before, and nothing like trauma or anything that would have put her at risk for a chronic subdural, and then the events of the operation. So I think that all the events occurred on that day of the 6th, and it's just a matter of dating some blood earlier than other, but you would have to ask him about that.

Based on this testimony, neither of plaintiff's expert witnesses disagreed with describing Peetz's subdural hematoma as "chronic," although they would likely clarify that it also contained blood that looked newer or more acute.

Moreover, the Supreme Court's order must be interpreted according to the decision it was reversing. In its previous opinion, this Court explained plaintiff's causal theory as follows:

Here, the crux of the objected-to expert opinions is that the subdural hematoma was caused by a variety of factors which included: (1) in this case, the lack of blood flow in the left hemisphere of the brain caused it to shrink, retract, or sag a bit from the skull, (2) this retraction from the skull pulled at the bridging veins, which caused them to tear, and (3) bleeding from these resulting tears, accelerated by the administration of an anticoagulant drug, then caused the bleeding into the subdural cavity. [*Tondreau*, unpub op at 6.]

This Court determined that this causation testimony was admissible because it had an evidentiary basis in fact. Thus, in reversing this Court's decision, the Michigan Supreme Court rejected plaintiff's theory that Peetz's subdural brain bleed (whether acute or chronic) occurred as a result of lack of blood flow to Peetz's brain during the CEA, causing the brain to retract from the skull, tearing blood vessels, and creating a pathway for blood to accumulate in the subdural space. In light of the context of the Supreme Court's order, the trial court did not err in concluding that the order covered more than merely testimony pertaining to Peetz's "chronic" subdural hematoma.

Plaintiff argues that the Supreme Court's order overlooked that Peetz also suffered from subarachnoid hemorrhaging, which, according to plaintiff, constituted a reperfusion injury resulting from failure to control Peetz's blood pressure during and immediately after the CEA, and represented an independent cause of Peetz's death. To begin, we reject plaintiff's argument that Peetz's subarachnoid hemorrhaging constituted a reperfusion injury. Dr. Flye admitted that Peetz's complication was "[n]ot the classic reperfusion syndrome." He explained that "[c]lassic reperfusion syndrome is what happens *in the brain*." (Emphasis added.) In this case, Dr. Flye admitted that it was unclear whether there were any changes to Peetz's brain. Rather, the CT scan only revealed that Peetz was hemorrhaging in the subarachnoid space surrounding her brain.

We also reject plaintiff's position that Peetz's subarachnoid hemorrhaging was an independent causal theory distinct from what our Supreme Court rejected. According to plaintiff's experts, Peetz's subarachnoid hemorrhaging was merely a secondary effect of the torn bridging veins resulting from her alleged brain retraction. Dr. Austin opined that after Peetz's brain retracted from her skull and tore the bridging veins during the CEA, removal of the carotid arterial clamp and Peetz's hypertension forced blood through the broken vasculature and into Peetz's subdural and subarachnoid spaces. This theory still attributes Peetz's death to an alleged brain retraction that occurred during the CEA. Accordingly, the trial court did not err in concluding that hypertension was not a separate causal theory, but was instead a component of the same causal theory rejected by the Supreme Court.

Finally, plaintiff argues that the trial court improperly granted summary disposition because both Dr. Austin and Dr. Flye opined that Peetz would have survived if she had received a CT scan immediately after her second surgery. Plaintiff argues that this theory of causation was independent of the theory rejected by the Supreme Court. Dr. Flye, plaintiff's standard of care witness, testified that Dr. Hans breached the standard of care by failing to order a CT scan immediately after Peetz's second surgery when he could not determine the cause of her neurological symptoms.² Dr. Flye explained as follows:

Q. Okay. All right. What is the next violation of the standard of practice?

A. Well, I think that it's a little unclear whether [and] when Dr. Hans was notified about the findings in the PACU. . . .

[If] he sees [Peetz] for the first time at about 12:15, now she's got flagrant symptoms. He doesn't have time and he shouldn't send her off to the CT scanner, he should take her to the operating room. So I agree with that. And he goes there

² Plaintiff also suggests that Dr. Hans should have obtained a CT scan between the two surgeries. However, Dr. Flye testified that it was "unclear whether [and] when Dr. Hans was notified about the findings in the PACU," and admitted that if Dr. Hans saw Peetz's symptoms for the first time at 12:15 p.m. when he examined her, he "doesn't have time and he shouldn't send her off to the CT scanner, he should take her to the operating room."

with one diagnosis; that is, there is a problem with—a mechanical problem with flow through the carotid artery.

However, when he gets there and he opens the artery, there's no clot. He gets an arteriogram and the narrowing is about 70 percent. That is not the reason this lady is having her neurological symptoms. He puts the stent in, and that's debatable, but I don't think that's below the standard of care because he's taking all measures, but that's not the reason she had her stroke. And then he closes and he has no explanation for her symptoms.

At that point she should have gone immediately for CT scanning to see what was going on, because every minute, every hour that goes by, there's further increase in the subdural hematoma and swelling of the brain and increasing intracranial pressure and shifting that pressure to herniate her brain stem. Once the brain stem is herniated, then, you know, there's no way of salvaging it.

Q. What I think I heard is that the violation of the standard of practice was the failure to get a CT immediately after closing?

A. Yes, because [Dr. Hans] can't explain what's going on. So if he can't answer the question, he needs to call upon radiology to help with imaging, neurology, neurosurgery to elevate the situation and see what can be done to improve or change her course.

Accordingly, Dr. Flye clearly testified that Dr. Hans breached the standard of care by failing to obtain a CT scan immediately after Peetz's second surgery when he could not independently determine the cause of her serious neurological symptoms.

Regarding causation, both of plaintiff's experts testified that Peetz would have survived if she had received a CT scan immediately after her second surgery. Dr. Flye testified as follows:

Q. Do you have an opinion as to what would have occurred had surgery been performed shortly after the second surgery? By surgery, I mean to decompress the brain from the subdural hematoma?

A. Well, as I said earlier, every minute that goes by, the situation is worsening and simply because of the time frame from a normal patient who walks in in the morning to later in the day having a problem, I'm sure that minutes would have made a difference. So if she had had a CT scan, the subdural, which can be decompressed, had been identified, immediate burr holes, I think the chance of interrupting the process and salvaging the patient was greatly enhanced.

Q. Do you think she would have survived?

A. Yes.

Q. More likely than not?

A. Well, it depends upon when you do it. If you did it 20 minutes before the CT scan was reported, it's hard to say, but within a reasonable—you can get a CT scan from the operating room in 45 minutes. I would think that in that setting more than likely the patient would have been salvaged.³

Dr. Austin testified as follows:

Q. At what time are we talking about?

A. Approximately 3:30 in the afternoon.

Q. That's when the surgery ended.

A. Well, when she goes, she goes to PACU, according to my timeline, at 3:39.

Q. All right. And you're saying that if she had been taken back for a CT scan at that time, she could have been operated and saved?

A. Right.

* * *

Q. What would have been the quality of life had she been taken back for the CT at [3:30 p.m.]?

A. She would have survived, she would still be alive, but she may have or probably would have some neurological deficits with respect to speech function and use of the right side of her body, her arm and leg. To what degree would be difficult to say.

Q: Could she walk?

A: Probably with a period of intense physical therapy and rehabilitation, yes.

³ The dissent cites an excerpt of Dr. Flye's testimony in which he is asked to provide an opinion "as to what specific time that [Peetz's] condition could have been *reversed*," to which he responds, "It's hard to tell. Every minute counts and I really can't tell you." (Emphasis added.) Although the dissent correctly points out that Dr. Flye did not specifically opine as to when Peetz's condition could have been *reversed*, he did provide unequivocal testimony regarding when it was more likely than not that Peetz could have been *salvaged*. Plaintiff was only required to show that Peetz's opportunity to survive or achieve a better result was greater than 50%, not that it was more likely than not that Peetz would have made a full recovery. MCL 600.2912a(2).

* * *

Q: By the time the CAT scan was done in this case, it was 6:43 p.m., the CAT scan said exactly that, that there was a mass and that the brain stem had shifted. At that point, was this patient salvageable, this is 6:43?

A: Yes, 6:43. The problem is that CAT scan was done much too late in order to make a surgical decision with respect to operating on the intracranial hemorrhage.

Both Dr. Flye and Dr. Austin explained that the failure to obtain a CT scan immediately after the second surgery caused Peetz's death because, without the CT scan, her physicians were unable to identify the subdural hematoma in time to perform intracranial surgery to evacuate the excess blood and relieve the pressure on her brain. Considering the above testimony, plaintiff's experts "set forth specific facts that would support a reasonable inference of a logical sequence of cause and effect." *Teal*, 283 Mich App at 394-395 (citation and quotation marks omitted).

The dissent contends that summary disposition was proper because Dr. Flye's and Dr. Austin's testimony regarding plaintiff's CT scan causal theory is inadmissible under MRE 702. However, the issue of the admissibility of plaintiff's expert testimony pertaining to the CT scan causal theory is not properly before this Court because it was not addressed or decided by the trial court.⁴ *Fast Air, Inc v Knight*, 235 Mich App 541, 549-550; 599 NW2d 489 (1999).

⁴ Contrary to the dissent's implications, experts are not required to offer unsolicited information at their discovery depositions regarding the bases of their opinions, including recitation to scientific treatises, periodicals, or pamphlets supporting every opinion, nor is the introduction of learned treatises admissible at trial as substantive evidence. See MRE 707. Defendants did not solicit from Dr. Flye the basis of his opinion that the standard of care required a CT scan to be ordered immediately after the second surgery failed to reveal the cause of Peetz's neurological compromise. Nor did they solicit from either Drs. Flye or Austin a recitation of the medical data or literature supporting their opinions that time was of the essence when faced with the presence of an intracranial hemorrhage in order to relieve the pressure on the brain, and that an earlier ordered CT scan would have led to Peetz's survival and a better outcome. Assuming plaintiff was faced with a motion challenging the admissibility of the experts' opinions under MRE 702 or MCL 600.2955, the reliability of such opinions could then be explored, although one may reasonably presume that ample medical literature supports the proposition that increasing intracranial pressure on the brain, unrelieved, can cause progressive brain damage. To the extent the dissent implies that medical literature must exist regarding exactly when a brain is no longer salvageable under such conditions, or what outcome can be expected at any given time on the continuum of a delay in intervention, no reputable physician or scientist would conduct a study to measure the progressive, incremental damage caused by a delay in intervening in the presence of acute, subarachnoid bleeding. As noted in *Edry v Adelman*, 486 Mich 634, 641; 786 NW2d 567 (2010), "peer-reviewed published literature is not always a necessary or sufficient method of meeting the requirements of MRE 702[.]" Furthermore, it is not the correctness of the expert's conclusions but the soundness of his or her principles and methodology that matters. See

Following the remand from our Supreme Court, defendants filed a motion to exclude the opinion testimony of Dr. Austin and Dr. Flye and for summary disposition. The trial court granted defendants' motion for summary disposition with respect to plaintiff's first two causal theories because it concluded that Dr. Flye's and Dr. Austin's testimony that the CEA caused Peetz's subdural hematoma and subarachnoid hemorrhaging was inadmissible under MRE 702 pursuant to our Supreme Court's order. However, the Supreme Court order did not address plaintiff's experts' testimony regarding the CT scan causal theory, and the trial court did not dismiss this theory on the basis that the expert testimony addressing it was inadmissible under MRE 702. Rather, the court granted summary disposition on this causal theory because it concluded that Peetz did not have a greater than 50% chance at survival even if she had received a CT scan immediately after the second surgery. This determination was improper at the summary disposition stage given the previously cited expert testimony that Peetz *did* have a greater than 50% chance of survival if she had received a CT scan immediately after the second surgery.

Below, defendants presented, and the trial court relied upon, medical literature indicating that once *intracerebral* hemorrhaging, or bleeding within the brain itself, occurs, it is almost always fatal. Winn, *Youmans Neurology Surgery* (5th ed), p 1644 ("Postoperative intracerebral hemorrhage . . . has been the source of significant morbidity and mortality in series in which operative techniques have otherwise resulted in excellent outcomes."); Piepgras et al., *Intracerebral Hemorrhage after Carotid Endarterectomy*, 68 J Neurosurg 532, 535 (1988) ("Once hemorrhage occurs, it is usually devastating and even when evacuation is performed early the outcome is poor for most patients."). The court also relied on an article, Morrish et al., *Intracranial Hemorrhage after Stenting and Angioplasty of Extracranial Carotid Stenosis*, 21 Am J Neuroradiol 1911, 1911 (2000), stating that "[m]assive intracranial hemorrhage after endarterectomy has been reported in multiple large series as an uncommon but devastating event, occurring in approximately 0.6% of cases." The article was describing intraparenchymal hemorrhages in the brain tissue.

In this case, Peetz suffered from subarachnoid hemorrhaging and a subdural hematoma outside of the brain, but there was no evidence of intracerebral hemorrhaging within the brain tissue itself. Therefore, the trial court erred in relying on medical literature discussing a condition, intracerebral hemorrhaging, that Peetz did not have to conclude that she would not have survived even if she had obtained a timely CT scan. At the summary disposition phase, the initial burden was on defendants to produce evidence showing that plaintiff's experts' testimony regarding Peetz's opportunity for survival was erroneous or insufficient. *Quinto v Cross & Peters Co*, 451 Mich 358, 362; 547 NW2d 314 (1996). Defendants failed to meet this burden by relying on medical literature that did not address Peetz's condition. Accordingly, the trial court erred in granting defendants' motion for summary disposition with respect to plaintiff's CT scan causal theory.

Daubert v Merrell Dow Pharm, Inc, 509 US 579, 594-95; 113 S Ct 2786; 125 L Ed 2d 469 (1993).

Affirmed in part, reversed in part, and remanded for further proceedings consistent with this opinion.

/s/ Michael F. Gadola

/s/ Jane M. Beckering