IN THE COURT OF COMMON PLEAS

LORAIN COUNTY, OHIO

J. TERRY ROBINSON, Administrator
of the Estate of ELSIE A. ROBINSON,

Case No. 99 CV 122855

Plaintiff,

vs.

LYNN CHRISMER, JR., M.D., et al.,

Defendants.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

VIDEOTAPED DEPOSITION OF

ALLEN SOLOMON, M.D.

July 14, 2004

10:08 a.m.

2150 Pennsylvania Avenue, Northwest, Suite 4/414

Washington, D.C. 20036

ALDA MANDELL, Registered Professional Reporter and Notary Public
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

APPEARANCES

.

ON BEHALF OF PLAINTIFF:
BECKER, MISHKIND & CO., LPA
JOHN W. BURNETT, ESQUIRE
134 Middle Lane
Elyria, Ohio 44035
(440) 323-7070

.

ON BEHALF OF DEFENDANT DR. HULYALKAR:
ROETZEL & ANDRESS
DOUGLAS G. LEAK, ESQUIRE
One Cleveland Center - 9th Floor
1375 East 9th Street
Cleveland, Ohio 44114
(216) 615-4835

.

.

ALSO PRESENT: DANA CAMPBELL - Video Operator

.

.

.

.

.

Videotaped Deposition of Allen Solomon, M.D.
July 14, 2004

(Defendant's Exhibit-A was marked for identification and was attached to the transcript.)

THE VIDEO OPERATOR: We are on record at 100743. Here begins tape number one in the deposition of Allen Solomon, M.D. in the matter of J. Terry Robinson, Administrator of the Estate of Elsie A. Robinson versus Lynn Chrismer, Jr., M.D., et al in the Court of Common Pleas for Lorain County, Ohio. Case Number 99 CV 122855.

Today's date is July 14th, 2004. The time is 10:08:12. The video operator today is Dana Campbell of Set Depo. This video deposition is taking place at the office of George Washington University, 2150 Pennsylvania Avenue, Northwest, Suite 4-413, Washington, D.C. and was noticed by Anna M. Carulas, counsel for the defendant, North Ohio Heart Center. Would the counsel please identify themselves and state whom they represent.

MR. BURNETT: I'm John Burnett. I represent the plaintiffs in this case.

MR. LEAK: I am Doug Leak. I represent Dr. Hulyalkar in this case.

THE VIDEO OPERATOR: The court reporter today is Alda Mandell of Set Depo. Would the reporter please swear in the witness.

ALLEN SOLOMON, M.D. having been duly sworn, testified as follows:

EXAMINATION

BY-MR.LEAK:

Q. Can you please introduce yourself for the ladies and gentlemen of the jury.

A. My name is Allen Solomon.

Q. Dr. Solomon, what is your profession?

A. I am a cardiologist.

Q. Dr. Solomon, I am handing you what has been marked as Defendant's Exhibit A. Can you please identify that for the jury.

A. This is my CV, my curriculum vitae.

Q. And what is a curriculum vitae?

A. It's a resume.

Q. Doctor, I'd like to begin with

going through your background a little bit with the jury. Can you take us through your education, starting with undergraduate.

A. I went to undergraduate school at the University of Maryland in College Park. I then went to medical school at the University of Maryland, which is in Baltimore City. I then did my residency in internal medicine, still at the University of Maryland. I then came to Washington, D.C. where I did a cardiology fellowship at Georgetown University Hospital, followed by a cardiac electrophysiology fellowship, which is the study of heart arrhythmias, and then I began on staff at Georgetown University.

Q. Doctor, with regard to electrophysiology, can you explain a little bit more about what that entails?

A. Sure. It's the study of fast and slow heart rhythms. Essentially some people have problems when their heart rhythm goes too slow and some people have heart rhythms that go quite fast like atrial fibrillation in this case. And electrophysiologists are the physicians in charge of taking care of

Page 6

people with these heart rhythm abnormalities.
Q. Doctor, where are you licensed to practice medicine?
A. I'm licensed to practice in the state of Maryland and in the District of Columbia.
Q. And are you board certified?
A. I'm board certified in internal medicine, in cardiology and in cardiac electrophysiology.
Q. Doctor, I have seen in your CV that you have received some awards. Can you please mention some of the awards that you believe are important to you?
A. I think the awards that are most important to me are the teaching awards. One of my roles at the university is in teaching medical students, residents and fellows, and I've received several awards regarding my teaching of those folks.
Q. And do you belong to any professional societies or hold any positions with any committees?
A. I belong to the American Heart Association, the American College of

Page 7

Cardiology, a society called Heart Rhythm Association, which is for electrophysiologists, and I sit on several committees for each of these associations.
Q. And do you presently have any academic positions here in the D.C. area?
A. My current academic position is at George Washington University Hospital where I am in charge of the fellowship training program and I'm an associate professor of medicine.
Q. And what does that involve, the fellowship training?
A. There is a small administrative role which deals with making sure that each of the fellows going through the program, which are young men and women who have already completed their internal medicine residency training who are learning how to be cardiologists, to make sure they receive proper training in all the fields of cardiology so that they can then leave this program and practice as a cardiologist.
Q. And do you lecture in your field of specialty?

Page 8

A. I lecture locally, regionally, nationally and I've even done some international talks as well.
Q. And have you provided any publications for the medical literature out there or any medical journals?
A. I've written approximately 60 manuscripts and somewhat more than that abstracts.
Q. Doctor, I'd like to turn to the nature of your practice. We're here in Washington, D.C. Can you explain for the jury what is the nature of your practice?
A. My practice is divided between general cardiology and electrophysiology. My normal day would be probably about half the time I spend in the hospital seeing inpatients -- about a third of the time seeing inpatients, about a third of the time seeing outpatients, and about a third of the time in the laboratory doing procedures.
Q. And what percentage of your professional time is devoted to the clinical practice of cardiology?
A. Almost all of it, but certainly

Page 9

more than 90 percent of it.
Q. Doctor, I'd like to turn to your involvement in this case, and you have been retained by my law firm, Roetzel & Andress, to be an expert. Have you ever worked or had any contact with my law firm before?
A. This is the first and only time.
Q. And do you routinely get involved in expert reviews of medical malpractice cases?
A. It depends how you define routinely. I enjoy doing this. I learn a lot as a result of these. Helps sometimes in training the next generation of cardiologists. I would say on average maybe five cases a year I participate in.
Q. Doctor, I want to turn to this case involving Mrs. Robinson. And you have reviewed records and depositions in this case?
A. I have indeed.
Q. Okay. And what have you reviewed in general?
A. In general I reviewed multiple records concerning her medical condition before the hospitalization of February 2001 -- 1997,

Page 10

I apologize -- before February of 1997. I've specifically looked at the medical records involving this hospitalization which we're going to discuss today which was February and March of 1997. I've also looked at multiple depositions taken over the past few years.

Q. And would that be depositions of doctors involved in the case?

A. Either doctors involved in the case or experts for either side.

Q. Doctor, I will be asking you some questions that ask for opinions. Are your opinions to a reasonable degree of medical probability in this case?

A. Yes.

Q. Doctor, let's first start with Mrs. Robinson's medical history. Can you please explain to the jury the significance of her medical history.

A. Okay. I think, going into the hospitalization of February 1997, this was a 72-year-old lady with multiple medical problems involving multiple organ systems. She clearly had a weakened dilated heart which we call a cardiomyopathy. She also had a chronic

Page 11

arrhythmia known as atrial fibrillation. She also had severe emphysema involving her lungs. She had well known chronic kidney disease as well. She had poor circulation, what we call peripheral vascular disease. There's mention of deep venous thrombosis which is a disease involving the veins the her lower extremities. There is thought that have she may have had a blood clot in her lung called a pulmonary embolus. And there was even a mention of a stroke in the past. So clearly she had multiple medical problems going into this and she was obese as well.

Q. With regard to her cardiac condition, you have mentioned the atrial fibrillation, cardiomyopathy. Can you explain a little bit more about her cardiac condition when she was admitted to Elyira Memorial Hospital on February 25th, 1997?

A. Certainly. I think they fall into two major categories. One is more of a mechanical problem and that's her cardiomyopathy or weakened dilated heart. In fact the heart is a muscle which pumps blood throughout the circulation which provides blood

Page 12

flow to all of the important organs. And clearly that was weakened in her which would result in many symptoms like shortness of breath and exercise intolerance, things like that.

She also had an arrhythmia which for many years was an intermittent problem which was controlled with medication; however, over the past year prior to this hospitalization it was really a chronic problem. Atrial fibrillation is the most common heart rhythm abnormality we see in which the top chambers of the heart, the atria, beat very rapidly and often that results in a very fast heart rate which gives people symptoms of shortness of breath, lightheadedness, dizziness, decreases in stamina, shortness of breath.

And so the treatment of atrial fibrillation is to treat two major problems. First of all they're on treatments so their heart doesn't race, which alleviates many of those symptoms, and she was on a drug called Digoxin and a beta blocker called Atenolol to slow her heart rate down. In addition, these

Page 13

people are high risk for having strokes. The most important complication of atrial fibrillation is the risk of forming blood clots within your heart which can go anywhere, most importantly to your brain, which results in a stroke. In someone like her that risk may be as high as about 8 percent each year. And as a result of that, we put people on blood thinners, most importantly Coumadin, which significantly decreases the risk of having a blood clot and a stroke.

Q. And was Mrs. Robinson on Coumadin prior to February 25th, 1997?

A. She was indeed.

Q. You had mentioned she had some valve disease?

A. Correct.

Q. And what exactly is that?

A. She also has -- there is a series of valves which are essentially -- should be one-way valves which allow blood to flow from the top chambers down to the bottom chambers. The one on the right side is called the tricuspid valve and the left side is called

Page 14

the mitral valve. And both those valves leaked at least moderately, if not severely, the mitral and tricuspid valves. And clearly that can further deteriorate heart function because when the heart functions, ideally the blood should all go forward out the aorta to the body. When you have these leaky valves, some of it goes backwards into the lung or into the veins which further decreases the ability of your heart to pump blood effectively.

Q. And there's a term called ejection fraction. What exactly is that and what was Mrs. Robinson's?

A. Okay. Injection fraction is the ability of the heart to pump blood to the body. Essentially the heart should be able to eject or pump about half the blood with each beat. So a normal ejection fraction would be 50 percent, again meaning that you can eject half the blood from your heart with each beat. In her case it was somewhere between 25 percent and 30 percent depending on which echocardiogram you look at. But essentially her heart function was reduced by

Page 15

at least 50 percent.

On top of that, on top of her reduction in heart function, some of that was going actually the wrong way because of these regurgitant valves, these leaky valves, so in fact her heart function was actually worse than the reported 25 to 30 percent.

Q. Doctor, I want to go back to her condition with regard to risk for blood clotting and you already talked a little bit about that. How would you label Mrs. Robinson in terms of risk for blood clotting?

A. I think the risk is very high in her. Obviously what we do in all people, and the conversation that all physicians have with their patients when they're given a diagnosis of atrial fibrillation is we discuss the risks and benefits of either forming a blood clot if you don't take blood thinners or bleeding if you do. And that risk/benefit we weigh all the time. In this lady who has atrial fibrillation certainly puts her at risk for having a blood clot. If you add the fact that she has a weakened heart muscle, a cardiomyopathy, that further increases her

Page 16

chances of having a blood clot. If you throw in the fact that she's also had clots in her legs previously, again that further increases the risk. The fact that she may have had a stroke before would further increase that risk. So she has a number of risk factors which increase the risk of forming blood clots.

So clearly in her you would say she's at high risk for forming blood clots and in her, unless there was a very strong indication not to, this would be a lady you would put on blood thinners, Coumadin.

Q. Now, regarding Mrs. Robinson and the February 25th admission, what was the treatment plan for Mrs. Robinson upon presentation and after the initial workup?

A. I think that her initial presentation was mostly shortness of breath and cough, respiratory symptoms. In people with a history like hers of having heart failure history and having emphysema history, it's always a bit questionable which part of the shortness of breath is due to the heart and which part is due to the lungs. And I

Page 17

think their initial plan was to treat her lung function and try to give her medications to improve emphysema and wheezing and to give her a second set of medicines to improve her heart function as well and try to treat heart failure.

On top of that she was admitted yet again with rapid atrial fibrillation, a very fast heart rate, which were they were having more and more difficulty controlling with medications. And at that point one of the options is to do a procedure called a catheter ablation which essentially what happens is the atria beat very, very quickly and those electrical impulses go down to the ventricle below and can make the ventricle, which is your heartbeat, go very, very fast. The structure, the electrical structure, that allows the ventricle to go very fast is called the AV node. So if you can touch a catheter to that spot and deliver some heat or energy, which we call catheter ablation, you can essentially eliminate conduction through that electrical pathway through the AV node.

Page 18

The good part about that is you heart can never race again out of control. The bad part is you require a pacemaker afterwards. But at least with this procedure the pacemaker will make sure your heart rate is always slow and regular or appropriate and regular so that even though your heart will consistently be in atrial fibrillation, your heartbeat will essentially be 60 and regular when you sleep, 80 and regular when you walk, 110 and regular when you jog, so that people's symptoms of rapid heart rate all go away.

Q. Now, we know that the procedure was performed in this case by Dr. Moore.

A. Correct.

Q. How -- based upon your review of the records, how did the procedure itself go?

A. Okay. Essentially it went fine. The two parts of the procedure -- first part would be to eliminate conduction or do the ablation procedure of the AV node. Generally we try to completely eliminate electrical conduction from the top chambers to the bottom chambers. He partially interrupted

Page 19

that conduction so -- and there was even some talk later on of whether he would have to finish up the procedure later on.

Despite the fact that he didn't completely eliminate conduction, the heart rate seemed to be well controlled through the rest of the hospitalization. So at least when the goal was to make sure her heart didn't race any more, he seemed to accomplish that although he did not complete entirely what he intended to do from the beginning. They then went on and did the pacemaker procedure which, from reading through the medical records, went without any complications at all.

Q. Patients that undergo AV ablation and the placement of the pacemaker, how are they routinely generally treated postoperatively?

A. With regard to the procedure itself it's generally done these days as an outpatient procedure in a 23-hour unit where patients will come in in the morning, they'll have their ablation, immediately followed by their pacemaker implantation. They'll

Page 20

generally stay overnight at most hospitals and then be discharged the following day.

With regard to the Coumadin, which is always a little tricky because you don't want to do these procedures with the anticoagulation level too high, what's generally done is you stop the Coumadin several days before, usually three days before the procedure, just so the Coumadin level can drift down. And in her case her Coumadin level was fine on the day of admission. It was low enough to safely perform the procedure. And then we generally restart Coumadin either that evening or the next evening, hoping to get their Coumadin level back up to the therapeutic range within the next three to four days.

Often in the interim people will use various forms of Heparin to get them anticoagulated a little earlier because it does take three or four days before the Coumadin reaches its effective level. But often that's done as an outpatient.

Q. With regard to the anticoagulations, you talked about the

Page 21

Coumadin. When is the Heparin utilized, either before, during or after a procedure like this?

A. Again much of this, like much of medicine, is weighing risk and benefit. In people that you think are at very low risk for forming blood clots you may just start them on Coumadin on the evening and wait three or four days before they get fully anticoagulated. In someone like Mrs. Robinson, who's a much higher risk, we generally start the Heparin very early. I generally start it on the evening of the procedure. Some people start it the next morning. But generally Heparin is started within 24 hours after the procedure and generally Coumadin is given the evening of the procedure.

Q. Now, you had mentioned that now patients are on a 23 hour unit or observation. What was the circumstances with Mrs. Robinson back in February of 1997 and the plan with her to follow her up?

A. I think the medical team taking care of them wanted to be more conservative

Page 22

because I think they realized that she was an older lady with multiple medical problems and rather than do this as an outpatient procedure, they elected to keep her in hospital so they could watch her more closely. They gave her Heparin, followed her blood counts on a daily basis, began the Coumadin, and then kept her for multiple days after the procedure, I gather so they could catch her more carefully and look for the complications that we've talked about.

Q. And we know that Dr. Hulyalkar was part of that postoperative care and treatment. Do you have an opinion as to whether or not his treatment plan postoperatively was within the standard of care?

A. I think it certainly was within the standard of care. I think in fact, he went above the standard of care by keeping her in the hospital for multiple days while he watched her.

Q. Based upon your review of the medical records, how did Mrs. Robinson do postoperatively?

A. Well, initially she certainly did

Page 23

very well. What we'd like to see as a result of the procedure is we like to see her heart not race and we like to see the pacemaker function appropriately. And both those things occurred following the procedure. So as far as the ablation went and the placement of the pacemaker, there didn't seem to be any initial complications from that. Certainly in the early part of her hospitalization her mental status remained fine, her blood pressure and pulse remained in the normal range, her hematocrit and hemoglobin, her blood counts, remained in the normal range. They gave her Heparin to immediately thin her blood and that for the most part was in the normal range. And they began Coumadin which gradually -- later on in her hospitalization, which gradually started to creep up towards normal, although it never reached a therapeutic level.

Q. During the postoperative period after the procedure, was it within the standard of care to continue the Heparin therapy?

A. I think those decisions are always

Page 24

the most difficult decisions that we wrestle with in medicine. In Mrs. Robinson, like in all patients, you want to weigh risk versus benefit. In her case she clearly was a sick woman with multiple medical problems and multiple things which put her at risk for having a blood clot. So I think the normal thing you do in someone like this is you weigh the risk of having a blood clot, which could be catastrophic in her, versus the risk of having a bleed, which could also be catastrophic, and you try to make your best guess of which is more likely to occur and you treat accordingly. I think the ckc this woman, as we talked initially, with a cardiomyopathy, with atrial fibrillation, with a past history of a stroke, with a past history of blood clots in her legs, you had to say that her risk of forming a blood clot was substantial and I think it was reasonable and certainly within the standard of care that you would anticoagulate her. You know that there's a risk of bleeding alongside that and that would be a reason, A, to keep her in the hospital a little longer; B, to

Page 25

watch her for any complications of bleeding; and C, to follow things like blood count and pulse and blood pressure on a regular basis.

Q. Doctor, we know that the procedure was on February 27th and then March 2nd she started to complain of right flank pain. Exactly what is right flank pain?

A. Okay. Well, right flank pain is just pain on your side, essentially on the right side. Usually it's the lower chest, the upper abdomen region.

Q. What is the significance of that if you're following a patient like Mrs. Robinson?

A. The significance could be anything. It could be a kidney problem, it could be a bleeding problem, it could be a lung problem. There's multiple things that could enter into your thought process. But the first thing you obviously want to do is take a look and examine the patient and try to sort out what is going on.

Q. And what is your understanding as to what was discovered around this time frame of March 2nd when she rendered these

Page 26

complaints?
A. Okay. Well, when they went to examine her they found that she had a hematoma or a severe bruise involving the right side of her chest and upper abdomen. I think immediately in somebody that's on a blood thinner in which you see a hematoma, that's certainly the most likely cause of her pain. This is an inflammatory process. It's certainly painful in most people. It's not at all uncommon. In fact, it's very common that we put pacemakers in people who are on anticoagulation, on Coumadin. And quite commonly they'll have a hematoma or a big bruise and a collection of blood within the pacemaker pocket. That's unfortunately a rather common procedure.
Our tact is to watch it. You want to make sure that it doesn't expand in size. You want to make sure that it's located pretty superficially, that it doesn't go anywhere else. You want to make sure that their hemoglobin, their hematocrit, their blood counts are okay. And I think in this case you clearly saw she was having flank

Page 27

pain, she was having this hematoma, and I think the first thing you want to do is make sure she's okay. You want to check her blood count. You want to check her pulse and blood pressure. And then the worst catastrophe that could be involved here is a significant bleed that you can only see the most superficial aspects of on the skin is that she could have a bleed involving -- sort of deep in her abdomen, what we call retroperitoneal or an intraperitoneal bleed, and I think that would come to a physician's attention right away. And the test of choice to try to try to see if that's present or not present would be a CAT scan.
Q. Is that what was done in this case?
A. Which was done in her case. And in fact, when they did the initial evaluation of this right flank pain, they clearly measured the size so that it could be followed on a regular basis, they checked her pulse and blood pressure, which were normal, they checked her hemoglobin and hematocrit, which were slightly lower than when she came

Page 28

in but certainly well within an acceptable range. And they did the CAT scan to see if she had any severe bleeding and there was no evidence. It seemed to be a very localized bleeding area involving the skin and soft tissues.
Q. Was there any reference to the retroperitoneal area in the CT scan report?
A. In fact the report said no retroperitoneal bleeding and no intraperitoneal bleeding. So within the abdomen itself or behind.
Q. Doctor, do you have an opinion to a reasonable degree of medical probability as to how this hematoma was caused?
A. It almost certainly was caused by the ablation procedure. To do the ablation procedure you actually put a catheter within one of the veins in the groin and certainly what you hope to happen is you easily go into the vein and at the end you hold compression and a little plug seals the vein and you don't have any more problem.
If somebody's on blood thinner it often doesn't heal as well as you would like

Page 29

and it's possible for it to open up at a later date often in response to something like coughing or laughter or moving in a certain position. But I think that's the most likely cause of the bleeding problem.
Q. Does that mean that something wrong occurred during the procedure?
A. No, it does not. If the procedure is done perfectly normally you still can have this type of complication. Obviously it could be done right or wrong and you could have this complication. It doesn't tell you either one. But it certainly could be done perfectly normally and you could have this.
Q. Doctor, knowing now that she has a hematoma, benefit of the CT scan, how is a patient like Mrs. Robinson to be followed by the physicians like Dr. Hulyalkar and Dr. Chrismer?
A. Sure. I think once you diagnose that she has a hematoma it's of utmost important that you follow to make sure that it doesn't change in size or character, that this is a stable process. What you want to do is you want to outline the edge of the

Page 30

hematoma to make sure it's not expanding with time.
Q. Did they do that?
A. And they did that.
Q. And what did that reveal?
A. Well, originally they made the outline and over the next several days it didn't seem to extend past that marking so it seemed to be stable in size.
Q. Go ahead. I'm sorry.
A. The second thing you want to do is look at the patient and make sure that they still look well and are speaking to you and are -- you know, look as they had before this came up.
Q. And was that done?
A. And that was done. And in fact, even on the morning of the 5th, the notes say feeling better, doing well. So the patient seems to be doing fine.
Q. And what else?
A. You also want to follow her hematocrit. You want to make sure that's not changing dramatically. So you want to check at least every day. You want to check her

Page 31

hematocrit and hemoglobin level to make sure that that's remaining stable.
Q. And what did that reveal in this case?
A. And up until the evening of the 5th it had remained stable as well. And then lastly you want to check her vital signs and make sure her pulse and blood pressure remain in the normal range. And in fact her pulse and blood pressure were very much in the normal range right up until the last, say, 24 hours.
Q. Under what circumstances would a physician be required to stop the anticoagulation?
A. Again I think this is a judgment call. Again we're always weighing risk versus benefit. We've already established that she's at high risk for forming blood clots. So I think there's clearly a need for anticoagulation. At some point if the benefit of anticoagulation here and the risk is down here, you always want to keep the patient on. As that risk of bleeding increases further, it can eventually be more

Page 32

safe to actually stop the anticoagulation.
Specifically in her case, if the hematoma was expanding in size, if her blood count was dropping precipitously, if her blood pressure was dropping, if her pulse rate was increasing, her mental status was changing, then you'd be worried that this process was continuing. You'd obviously have to stop anticoagulation straight away.
Q. And what do the records indicate to you as to whether or not there's active bleeding or worsening bleeding in this case?
A. Again until the evening before her death all of the things, as far as how she felt, her vital signs, the size of the hematoma, the blood counts, were all quite stable. It wasn't until the evening of the 5th where she began to have some changes in how she looked. She began to have some changes in her vital signs. She began to have some changes in the blood count. And clearly at that point you have to say some process is ongoing and you have to reassess the judgment of whether anticoagulation is proper or not.

Page 33

Q. What is your understanding for this time period of March 2nd through the evening of March 5th? Who was following Mrs. Robinson in the hospital?
A. It sounds like she was followed by multiple physicians. Dr. Chrismer, her internist, was there. Dr. Hulyalkar, her cardiologist was involved. There was house staff involved. There was nursing staff involved. There was consultants involved from nephrology as well as hematology.
Q. Doctor, you have talked about hemoglobin, hematocrit, and I just want to address what exactly is that and what is that measuring?
A. Essentially it's the red blood cell count and it measures how much -- it measures what your blood count is. It measures whether you're bleeding or whether you're not bleeding. All of us should have a normal hemoglobin and hematocrit which should only change if either you're losing blood or you're destroying blood.
Q. Doctor, I want to address some of the criticisms that the plaintiffs' experts

Page 34

have raised in this case. The first one is do you have an opinion as to whether Dr. Hulyalkar was required to stop anticoagulation before the evening of March 5th, 1997?

A. Again I would say that that is a judgment call and you use your best judgment as a physician to weigh risk versus benefit. I think in a lady who seems to be stable, not bleeding actively, I think you still worry about -- the risk of clotting is higher than the risk of bleeding and I think it's perfectly reasonable to have continued anticoagulation.

Q. The plaintiffs have also suggested that there should have been serial H and H, hemoglobin, hematocrit tests done. Do you have an opinion regarding that issue?

A. Well, I certainly think there needs to be serial hemoglobin and hematocrit. We can argue what the right frequency is. But at least every blood value they received up until the evening of the 5th was pretty close to the same value. So it was clearly stable. I think what would dictate you to increase the frequency or get one off your

Page 35

normal schedule would be a change in clinical status. So if suddenly her blood pressure dropped or suddenly her hematoma expanded or suddenly she was unresponsive, I think at that point you certainly want to interrupt your normal schedule. But I think as long as the patient is clinically doing fine, I don't think you have to sort of change your schedule.

Q. And speaking of a change in status, was there a change in her status at some point?

A. Well, her status seemed to be very stable until the evening of March 5th.

Q. Doctor, plaintiffs' experts also suggest that there should have been serial CT scans performed after the March 3rd one. Do you agree with that opinion?

A. I think that would only be dictated by a change in the patient's clinical status. I think -- again, looking back I think it's easy to say that she was stable at the time of the initial CAT scan and something happened later. It would be nice to have received a CT scan right before

Page 36

the more significant bleed happened. But retrospectively it's easy to know when that is. Prospectively, you don't know when the bleed was. So it is possible that they would have done a CT scan the next day, it might have looked exactly like the first one and falsely reassured the physicians that she was at no risk. So I think the standard of care is to get a CT to rule out a catastrophic bleed initially, which was done, and then to get a second one only if her clinical status dictates it.

Q. Well, let's go to the evening of March 5th, 1997.

A. Okay.

Q. What is your understanding, based upon a review of the medical records, as to what happened that night?

A. I think what we know now is clearly she began to bleed, probably from the initial puncture site from her ablation which was done now approximately six days earlier. Actually would be seven or eight days earlier. But she started to bleed and that bleeding resulted in a drop in her

Page 37

hematocrit, a drop in her blood pressure, a change in her mental status. So something acutely seemed to happen on the evening of March the 5th.

Q. And when you have a patient like that under those circumstances, what are you supposed to do if you're following that patient?

A. Okay. I think you want to stabilize them as quickly as possible. This patient, as we discussed earlier, is chronically ill who has had an acute event, you want to move to a more intensive setting. So either an intensive care unit, a coronary care unit, you certainly want to do.

Q. Was that done in this case?

A. That was done the evening of the 5th. Yes. You also want to follow their blood counts. You want to make sure that if there is a drop in blood count, meaning they're bleeding actively, you want to replace that. So generally they get some volume, usually saline solution initially just to try to increase their blood pressure. And as soon as you can get it from the laboratory,

Page 38

you want to get red cells. You want to give them a blood transfusion and you want to give them -- the question's what's the right amount of blood and the right amount is blood is whatever blood is required to get their hematocrit towards normal, to get their pulse and blood pressure back to normal, to get their mental status back towards normal. And you don't know beforehand what the right amount is.

In this lady you have to be very careful because what we know about giving blood transfusions to people with a cardiomyopathy with a weakened heart muscle, it's very easy to give them too much blood and put them into heart failure. So you want to be very careful that you don't want to give them too much blood and cause yet another problem in an already compromised patient. So you want to give them just enough blood to get their blood pressure back up to normal and get them somewhat more stable.

Q. What did the blood count on the evening of March 5th reveal?

Page 39

A. Her blood count had dropped from somewhere in the mid 30's to about 19-1/2 I believe, which clearly showed a significant bleed.

Q. What's your understanding of who was involved late evening on March 5th into the early morning hours of March 6th in addressing this change in status?

A. I don't know all the people involved but certainly there were physicians involved. I believe a hematologist was at the bedside taking care of her. I know Dr. Hulyalkar was called by telephone and was given this information and I know he was relaying it by telephone. I suspect there were some house officers involved, although I don't know that for certain. And clearly there was the intensive care unit nursing staff involved.

Q. And what efforts were undertaken late evening of March 5th, early morning hours of March 6th?

A. Well, as I said, initially she was moved to an intensive care unit setting. She was given saline initially, two units of

Page 40

blood transfusion a little later on. And all of those things seemed to benefit her in that at least from the late evening of the 5th till the very early morning hours on the 6th, her blood pressure improved into a much better range and her blood count came up as well.

Q. One thing I don't know if we discussed was what was the status of the anticoagulation therapy during this period of time?

A. Well, her Coumadin level is -- as you know, began a couple of days earlier and it was beginning to increase. It still hadn't reached the therapeutic range but it was clearly increasing. And she was on Heparin, which is a more instantaneous blood thinner, and she had been on up until that point. But immediately on the evening of the 5th, when they diagnosed this problem, it was stopped.

Q. Doctor, do you have an opinion as to whether or not these resuscitation efforts administered were within the standard of care?

A. I believe they were within the

Page 41

standard of care.

Q. And can you please explain why?

A. Again the goal is to get her clinical status more stable and I think you want to give her whatever amount of saline and blood is required to get her blood pressure to a more normal range, again without going overboard and giving her too much.

Q. What happened on March 6th with Mrs. Robinson?

A. Well, obviously, although she initially seemed to stabilize over the night, early the morning of the 6th her bleeding obviously became more pronounced and she eventually bled extensively into what we call the retroperitoneal space, which is the space essentially behind her abdominal contents, which is almost impossible to diagnose clinically because you can't see that on examination. But that's where she was bleeding. And she bled at a rate faster than they were able to resuscitate her.

Q. Doctor, some of the terms we've heard in this case. Hypovolemic shock. What

Page 42

is that and does that apply here?
A. Yes, it does. Hypovolemic shock just means your blood pressure has dropped to an extent where you can't profuse your organs properly as a result of losing volume. One of those volume is bleeding. Also it could be done by things like severe dehydration as well. But it was bleeding in her case that caused the shock.
Q. How about compensatory mechanism? What is that?
A. Compensatory mechanism essentially means that your body does things to try to return your status as close to normal as possible so if your blood pressure were to drop, the body has things like adrenaline which kick in to increase your heart rate, to increase your blood pressure, to increase the contractility of the heart to try to compensate for the fact that you're bleeding. Often the body can keep up with that for a period of time but the older you are, the more chronic medical conditions, I think the less ability you are to compensate and the less long that compensation can occur for.

Page 43

Q. And is that what happened with Mrs. Robinson in this case?
A. I believe so. Yes.
Q. Doctor, is there any way that this death was either predictable or foreseeable?
A. I don't think it was predictable or foreseeable. Again I think there's always a risk of bleeding in people like her and the doctors were fully well aware of that. But I don't think anyone could have known that on the evening of the 5th that this was going to happen.
Q. Doctor, we have covered a lot of issues already in this case but I briefly want you to express whether or not you have an opinion that Dr. Hulyalkar met the standard of care in this case. Do you have an opinion?
A. I believe he did meet the standard of care.
Q. And do you have an opinion to a reasonable degree of medical probability as to whether Mrs. Robinson's death was as a result of any deviation from the standard of care in this case?

Page 44

A. It was not.
MR. LEAK: Thank you, Doctor. I have no further questions.
EXAMINATION
BY-MR.BURNETT:
Q. Hi, Doctor. I'm John Burnett. We met before the deposition, sir.
A. Good morning.
Q. The standard of care. We've used that phrase. Can we agree that that is what a reasonably careful and prudent doctor would do under the same and similar circumstances?
A. Yes.
Q. Okay. And certainly Dr. Hulyalkar owed his patient, Mrs. Robinson, the duty of acting as a reasonably prudent and careful doctor. Is that fair?
A. Yes.
Q. Okay. Now, by the way, obviously if her physicians undertook the trouble to perform an ablation procedure and then a pacemaker insertion, there was an expectation that this would benefit this patient. Fair?
A. Correct.
Q. Okay. There was an expectation

Page 45

that it would stabilize her heart and she could lead a normal life for a period of time at least. Fair?
A. Correct.
Q. Okay. And she was 72, right?
A. Yes.
Q. Is that a yes?
A. Yes.
Q. Now, I want to discuss compensatory mechanisms with you.
A. Okay.
Q. And I may be restating some of the things we discussed but I want to make sure we agree. These compensatory mechanisms can allow a patient to maintain a somewhat stable blood pressure while they're experiencing a bleeding, even an internal bleeding. Fair?
A. That is correct.
Q. Okay. And this can help them survive the bleeding. Fair?
A. Correct.
Q. Now, if a person has heart problems, lung problems, and kidney disease, that person's compensatory mechanisms may not be as good as a person's compensatory

Page 46

mechanisms who doesn't have these conditions. Fair?
A. I agree.
Q. Okay. Now, Mrs. Robinson had -- we talked about this -- she had heart disease, lung disease, and kidney problems, right?
A. Correct.
Q. Okay. Because of these conditions, her compensatory mechanisms were not as good as someone who didn't have these conditions. Fair?
A. Fair.
Q. Okay. I mean her compensatory mechanisms weren't as good as your or mine would be right now. Fair?
A. I hope so.
Q. Okay. All right. Put another way, because of those conditions she was less likely to survive the type of bleeding event she experienced than you or I might. Fair?
A. I think that's true.
Q. Okay. Now -- and I think you stated this on your direct examination -- really the cause of death here was that her

Page 47

compensatory mechanisms gave out and her heart essentially failed. Is that fair?
A. I'm not sure I'd say her heart failed but she clearly bled extensively and was not able to meet her compensatory mechanisms. I agree with that.
Q. Okay. All right. And this was from the internal bleeding we discussed.
A. That is correct.
Q. All right. And we know that the source of this bleeding was from the site of the ablation procedure where a vein or artery was punctured.
A. I agree.
Q. Fair? And that was punctured back on February 27th, right?
A. Yes.
Q. Okay. And certainly that puncture wound was never closed by anyone, by any surgeon. Fair?
A. That's correct.
Q. Okay. Now, cardiologists know that when there is an ablation procedure, there is a risk of puncturing the vein or artery in the groin where the procedure takes place

Page 48

initially, right?
A. Yes.
Q. Okay.
A. That's part of the procedure.
Q. Yeah. And cardiologists know you've got to be aware that this may have occurred even with the best of care.
A. That's correct.
Q. Okay. Now, just by virtue of the ablation procedure itself, she was at risk for internal bleeding because of the possibility of puncturing a vein or artery, right?
A. That risk is small but clearly that risk exists.
Q. Okay. Now, we know that Coumadin and Heparin are anticoagulants.
A. That's correct.
Q. Okay. And those are commonly referred to by people as blood thinning medication, right?
A. That's right.
Q. Okay. And the effect of blood thinning medication on a person's ability to cope with a cut or a puncture is that those

Page 49

blood thinning medications inhibit the body's ability to clot. Fair?
A. You're correct. Yes.
Q. Okay. And following the procedure she was started back on Coumadin and she was placed on Heparin, right?
A. That is correct.
Q. Okay. Dr. Hulyalkar put her on these medications, didn't he?
A. Yes.
Q. Okay. And when they're on these medications, by virtue of the fact that they're on these medications, they are at further risk for bleeding. Is that fair?
A. Yes.
Q. Okay. And this can be internal bleeding?
A. Yes.
Q. Okay. There's also the risk of a spontaneous retroperitoneal bleed as a result of being on Heparin. Fair?
A. I don't know if I'd call it spontaneous but clearly you can have a retroperitoneal blood following a catheter procedure.

Page 50

Q. Okay. All right. Isn't there a risk from being on blood thinning medications that just by being on the medication themselves, you can have a spontaneous retroperitoneal bleed?
A. It's extremely rare but, yes, it's reported.
Q. Okay. So she essentially had three risk factors for bleeding in this case, didn't she? And I'll go through them. She had the ablation procedure. That created a risk, didn't it?
A. Yes.
Q. Okay. There was the possibility that any puncture wound created by the ablation procedure may not clot over because of the Coumadin and Heparin, the anticoagulants or blood thinners, right?
A. I think that's part of number one, but yes.
Q. Okay. And there was also this risk of a spontaneous retroperitoneal bleed?
A. Yes.
Q. Okay. Now, we already agreed that Mrs. Robinson was less likely to survive the

Page 51

bleeding event she eventually had than a person without her other -- her conditions, the heart disease, lung disease, kidney disease. Fair?
A. Fair.
Q. Okay. Her body's ability to compensate for blood loss was weakened. Fair?
A. I agree.
Q. Okay. Now, given her heart, lung and kidney disease that we discussed and the fact that she had the ablation procedure and was on blood thinning medication, is it fair for us to conclude that the standard of care called for Dr. Hulyalkar to monitor her very closely for bleeding?
A. Yes.
Q. And this is because her physical condition made it less likely to survive a serious internal bleed than, say, you or I. Fair?
A. Fair.
Q. Okay. And the earlier the bleed was caught and the site of the bleeding closed, the better it was for this patient.

Page 52

I mean the more likely it would be that she would survive this bleed given her weakened physical condition.
A. That's correct.
Q. Okay. Now, active bleeding in a patient who's on blood thinning medication, I think we can probably agree that once active bleeding is discovered, the standard of care requires that the doctor stop the blood thinning medication until the wound is closed and there's no more risk of bleeding from that wound. Is that fair?
A. I think that still depends on what bleeding we're talking about and what the risk of forming a blood clot is. For instance, if we felt somebody was at very high risk for blood clot and the bleeding episode was a cut on their finger, you'd probably still say they should continue their blood thinner.
Q. Okay.
A. Again it's always weighing risk and benefits. If they had a little bit of blood in their stool, you may still opt to continue the anticoagulation even though you could

Page 53

argue that they're actively bleeding internally. I think if you're talking about a more brisk bleed which is causing a drop in hematocrit, a drop in blood pressure, then certainly at that point you would say the risk of anticoagulation is greater than its benefit and you would stop the anticoagulation.
Q. What if we're concerned about bleeding from the site of the ablation procedure internally. If the doctor thinks there is active bleeding going on, is it fair to say that under those circumstances, the blood thinning medication should be stopped and there should be an effort to close the wound site. Fair?
A. I think it still depends on how you define active bleeding. As I said earlier, it is extremely common that after a pacemaker implant that people will get a hematoma over the pacemaker which is active bleeding. But we generally continue the Coumadin and we treat the -- we often treat the hematoma sometimes by evacuating, sometimes by using pressure bandages, but we never stop

Page 54

the anticoagulation.
So if you're defining the hematoma in the skin as active bleeding, I would say I don't think that would necessitate stopping anticoagulation given the patient was otherwise stable. If you're talking about an event like happened on the evening of the 5th, I would say clearly you would stop it at that point.
Q. Okay. Now, stopping the blood thinning medication enables the body's natural healing; in other words, clotting mechanisms, to kick in and help stop the bleeding internally. Fair?
A. That's true. Yes.
Q. Okay. If there was a slow steady bleed from the site of the ablation procedure -- okay -- which occurred on February 27th --
A. Right.
Q. -- and this bleed continued throughout the early part of March into the 3rd, 4th and 5th, and Dr. Hulyalkar knew there was a bleed going on from that site, can we agree that the standard of care would require him to stop the anticoagulation, the

Page 55

blood thinning medication, and get a surgical consult to close the site of the bleed before resuming the anticoagulation?
A. I still think this is more of a qualitative assessment. If continued bleeding was a trickle that was so small that it didn't cause any hemodynamic or clinical consequences, I think that's not true. It probably would have stopped eventually on its own. If it was a little more brisk, certainly the answer is yes, I would have stopped anticoagulation.
Q. Okay. Let's talk about what you're looking for to determine whether or not the bleeding is a trickle or brisk.
A. Okay.
Q. Okay? We would be looking at a manifestation of low blood pressure for instance. Fair?
A. Yes.
Q. Okay? We would be looking for decreased urine output. Fair?
A. Fair.
Q. Okay. We'd be looking for an altered mental state, right?

Page 56

A. Correct.
Q. Okay. Maybe thready peripheral pulse also?
A. Yes.
Q. Okay. And peripheral pulse means what? Tell us what that means.
A. Usually it's the pulse in your wrist.
Q. Okay. Now, these are things the doctor can look at to see if a patient is getting in trouble with an internal bleed.
A. That's correct.
Q. Fair? Now, you know Mrs. Robinson had a history of hypertension, right? She had high blood pressure?
A. Yes. She had a history in the past. Yes.
Q. Okay. Now, we also know Dr. Hulyalkar changed her medicine. He prescribed Isordil and Hydralazine on March 3rd and March 4th, correct?
A. That's right.
Q. Now, these are drugs that can serve to lower a patient's blood pressure?
A. They do indeed.

Page 57

Q. Okay.
A. Also used to improve heart function but yes, they also lower blood pressure.
Q. Okay. Now, I think by way of history also she had kidney disease --
A. Yes.
Q. -- and needed diuretics for that, right?
A. You usually don't use diuretics to treat kidney disease.
Q. Okay.
A. She was on diuretics and she did have kidney disease. I agree.
Q. She was on diuretics for what reason then, please?
A. I suspect because she had a weakened heart and that was to treat heart failure. It also acts to treat high blood pressure as well.
Q. Okay. Now, the diuretics help one produce urine?
A. Yes.
Q. Okay. And you need to produce urine, right?
A. Yes.

Page 58

Q. It's better to produce urine than not produce urine?
A. I agree.
Q. Okay. Now, we also know that Dr. Hulyalkar held her diuretic medication as of March 1st, right?
A. Correct.
Q. Okay. Furthermore, on the 5th he prescribed Atarax, right?
A. Correct.
Q. Okay. She received a dose at 11:00 o'clock a.m. and had received some doses prior to that. Fair?
A. Fair.
Q. Okay. Atarax is a sedating antihistamine, right?
A. That's correct.
Q. Okay. Now, let's talk about some clinical findings as were set forth in the record. And sir, for your convenience I'm going to hand you what we've marked as Plaintiff's Exhibit 2. And if you would like to try to find that in the records you brought with you, feel free.
A. If it's okay with you, I'll just

Page 59

look at this.
Q. That's fine. Her urine output on the 4th was lower than on -- well, it was -- I'm sorry. Let's talk about her urine output. The intake was 2533. And how is that measured? Do we call that units or milliliters?
A. Her intake is -- yeah -- milliliters or cc's.
Q. Okay. It looks like 2,533 cc's?
A. I agree.
Q. And what was her output on the 4th?
A. It looks like it's 1400.
Q. So her output was less than her input on that day?
A. That is correct.
Q. Okay. Now, let's talk about her output on the 5th. It was lower than -- her output on the 5th was lower than it was on the 4th, right?
A. That is correct.
Q. Okay. Her intake was 1681 and her output was 450. Is that fair?
A. Yes. I agree.

Page 60

Q. Now, in your mind you can't tell me whether this was a result of Mrs. Robinson's kidneys shutting down from her body's compensatory mechanisms dealing with an ongoing internal bleed or from the diuretics being held, can you?
A. That's correct.
Q. Okay. Let's look at her blood pressure on the 4th. It's getting progressively lower as the day proceeds. Is that fair?
A. Her blood pressure on the 4th?
Q. Yes, sir.
A. Is that your question?
Q. Yes.
A. Yes. It's somewhat lower in the evening than it is in the morning. I agree.
Q. Let's go through them.
A. Okay.
Q. At 0200 in the morning it was 160 over 98, right?
A. Right.
Q. At 0900 it was 157 over 78.
A. Right.
Q. At 1800 in the evening, it was 132

Page 61

over 70.
A. Right.
Q. And at 2200 -- that's 10:00 o'clock at night --
A. Right.
Q. -- it was 132 over 70, right?
A. That's correct. One of the things we often see in hospitalized patients is they tend to get their medications in the morning, often about 9:00 or 10:00 a.m., so it's not at all uncommon to see the evening blood pressures, when their medications are starting to wear off, be a little higher. They get their medications at 10:00 in the morning and it gets a little lower. And in fact obviously hers by the next evening is back to 153 again.
Q. Okay.
A. So I wouldn't say that it's necessarily trending down, but it's clearly lower in the daytime and early evening than it is the night before. But then it picks right back up to essentially where it was.
Q. Well, let's see how you respond to this question.

Page 62

A. Okay.
Q. You can't tell me if the progressive lowering of the blood pressure is from her compensatory mechanism being slowly overwhelmed by a slow ongoing bleed from the ablation site or whether it's the desired effects of the Isordil and Hydralazine. Can you tell me that?
A. Can you repeat the question one more time?
Q. Sure.
A. You want to know if the lowered blood pressure -- I can differentiate whether it's due to the medication or due to --
Q. A slow ongoing bleed from the ablation site.
A. I think that's correct.
Q. Okay. Now, let's look at her blood pressure on the 5th. Is it fair to say it's getting lower then?
A. I think what you can say is the first one on the 5th is back to 153 again.
Q. Yes.
A. So it's sort of back to where we just were. The next one -- subsequent ones

Page 63

were all lower and lower and lower. I agree with that. Yes.
Q. And that 153 over 78 is at 2:00 in the morning, right?
A. That is correct.
Q. And then we have -- at 8:15 we've got 110 over 62, right?
A. Right.
Q. And then we see another one at 4:00 in the afternoon, or 1600, that's 90 over 48.
A. Right.
Q. Okay. And then at 10:00 o'clock that evening, she's 70 over 48.
A. That's correct.
Q. That's really low, right?
A. That's really low. Yes.
Q. Again on the 5th you can't tell me if the decline in her blood pressure is from the compensatory -- her compensatory mechanisms being overwhelmed by a slow ongoing bleed from the ablation site or from the desired effect of the Isordil and Hydralazine. Fair?
A. Fair.
Q. Okay. Now, she also had an

Page 64

episode when she almost passed out mid to late morning on the 5th. Do you remember seeing that in the records?
A. I do not remember seeing that.
Q. Okay. I would like you to assume that she was being walked to the ladies room and she almost passed out.
A. Okay.
Q. And -- but she had been given Atarax. Okay. Would you assume that too, please, sir?
A. Yes.
Q. Given that she almost passed out mid to late morning on the 5th as she was walking to the ladies room and was being walked by a nurse, again you can't tell me whether that episode is from the Ativan prescribed by Dr. Hulyalkar or the decreased level of consciousness from her compensatory mechanisms being overwhelmed by a slow ongoing bleed from the ablation site?
A. There's many, many causes of syncope, of fainting.
Q. Okay.
A. It's hard to know what caused it.

Page 65

Q. Okay. And she also had some problems with her peripheral areas, didn't she? She had a peripheral neuropathy?
A. Yes. And poor circulation and problems with her veins as well. Yes.
Q. So it would probably be hard to tell whether she had a thready pulse or not because of her poor circulation in her extremities.
A. Usually poor circulation involves the legs rather than the arms. It is possible that what you said is true. But usually with a radial pulse or the pulse in your wrist you can still tell.
Q. So Dr. Hulyalkar's actions in holding Mrs. Robinson's diuretics as of March 1st, prescribing Isordil and Hydralazine and prescribing Ativan, potentially masked three things you would look to clinically to alert you if there was an ongoing slow bleed from an ablation site that we talked about. Fair?
A. I certainly say that's a possibility. Yes.
Q. Okay. Now, we know he was concerned about internal bleeding because he

Page 66

did the CT scan on March 3rd, right?
A. Right.
Q. Okay. And this is because Mrs. Robinson had an area of ecchymosis on her right flank. Fair?
A. That's correct.
Q. Okay. Now, an area of ecchymosis, we also call it a hematoma, right?
A. I think that ecchymosis is usually bleeding. Hematoma is usually a little more significant. That's actually a bigger collection of blood if you will.
Q. Did she have hematoma or a bruising?
A. It was defined as a hematoma.
Q. Okay. And that can evidence itself as a black and blue mark on the skin?
A. That is correct.
Q. All right. And the CT scan actually showed a pooling of blood internally in her. Fair?
A. Under the skin.
Q. Okay.
A. If that's internally, then yes.
Q. Yeah. And we talked about the

Page 67

source of that bleed being from the site from the ablation procedure.
A. Yes.
Q. Okay. Now, we know that after her death there was an autopsy.
A. Correct.
Q. And you've seen the autopsy.
A. I have.
Q. Okay. The autopsy showed a huge hemorrhage that is a bleed in the retroperitoneal space, the anterior abdominal wall on the right, and down into the cubitus and anterior chest wall. Is that fair?
A. That's fair.
Q. Okay. This bleed was also from the same site, that site of the ablation procedure. Fair?
A. Yes.
Q. Okay. So the blood loss causing her death and the blood loss we see in the CT scan on the 3rd was from the same site.
A. Correct.
Q. Okay. I think you'll agree with me that it's at least possible that, prior to the evening of March 5th, this bleed had been

Page 68

going on rather slowly and it could not be detected clinically.
A. I think that's possible.
MR. LEAK: Objection.
BY MR. BURNETT:
Q. Now, sometimes patients can continue to bleed and these compensatory mechanisms we talked about can allow their blood pressure to remain somewhat stable. Fair?
A. Yes.
Q. Okay. And by the way, I note that the nurses -- in the chart we see the nurses marked a line around the edge of the black and blue mark on her skin.
A. Yes.
Q. Okay. This is to determine -- this is to ensure that it's not getting any larger, right?
A. That's correct.
Q. Because if it expands beyond that line, you've got to be alert that there's still bleeding going on, right?
A. That's certainly one of the possibilities. Yes.

Page 69

Q. Okay. But I want to make sure that I understand if I'm correct here, that there can be continued bleeding internally that can occur without the black and blue mark expanding beyond the lines, okay, but go into different tissue planes internally. Is that fair?
A. That is correct. And in fact with these retroperitoneal bleeds there's often no external signs that this is ongoing. We're sort of left with blood counts and clinical status of the patient.
Q. Good. Okay. And since you're talking about blood counts at this point, let's talk about the hemoglobin and hematocrit test.
A. Okay.
Q. Again to reiterate, that can essentially tell a doctor -- among other things, it can tell a doctor if a patient is losing blood, right?
A. That's correct.
Q. And that would be even internal bleeding. If the blood is going out of the spaces where it's normally supposed to be,

Page 70

that can reveal itself in a hemoglobin and hematocrit test, right?
A. That's correct.
Q. And what's a normal hemoglobin and hematocrit?
A. It's a little different in women than men.
Q. Okay.
A. But it's generally in the mid 40's.
Q. And that's the hematocrit?
A. That's hematocrit.
Q. What's the hemoglobin?
A. Hemoglobin is generally about a third of that. So it's about 15 in a man and it's about 13 or 14 in a woman.
Q. Good. Okay. Now, you've certainly ordered hemoglobin and hematocrit tests to determine if one of your patients is losing blood internally. Fair?
A. Yes.
Q. Okay. Now, there can be a lag time between the onset of bleeding and the drop in the hemoglobin and hematocrit. Is that fair?

Page 71

A. That's correct.
Q. Okay. That lag time can be anywhere from four to eight hours. Fair?
A. I think that's fair.
Q. Okay. Now, we know that Dr. Hulyalkar ordered a hemoglobin and hematocrit test on the evening of the 5th.
A. That's correct.
Q. Okay. And as of 10:30 that evening the hemoglobin and hematocrit of Mrs. Robinson was 6.2 and 19.4, right?
A. Correct.
Q. She lost a lot of blood.
A. Correct.
Q. I think you don't agree with me it was nearly 50 percent but it was certainly at least 30 percent of her blood volume.
A. I think that's fair. I think she had a significant bleed. Yeah.
Q. And it's likely that as of the time of that test at 10:30 at night, there was a lag time and we were four to eight hours behind. It was conceivable that she had actually -- her blood volume was actually lower than what was reflected at 10:30.

Page 72

Fair?
A. She clearly had been -- her bleeding didn't start exactly that instant. It started sometime before. It's hard to know exactly when.
Q. Okay. And by the way, during this whole period of time, you know, March 2nd, March 3rd, March 4th, March 5th, up until later that evening, she's still on the blood thinning medicine, right?
A. That's correct.
Q. Okay. Now, the previous test that was done by Dr. Hulyalkar was done some 40 hours earlier.
A. That's correct.
Q. Okay. And that was done at 4:00 o'clock in the morning on March 4th, right?
A. That's correct.
Q. A little low but essentially normal on that test, right?
A. Yes.
Q. Okay. I think the major area of -- between you and me -- of our disagreement is whether Dr. Hulyalkar was required by the standard of care to have done more hemoglobin

Page 73

and hematocrit tests within those 40 hour period -- that 40 hour period. Is that fair?
A. Okay.
Q. Okay. Or whether he should have done more CT scans within that 40 hour period.
A. Okay.
Q. All right? And I think you'll agree with me that had Dr. Hulyalkar done hemoglobin and hematocrit tests every four to six hours within that time frame, it's certainly at least possible that they would have been progressively lower and would have reflected a slow ongoing bleed.
MR. LEAK: Objection.
A. I think that's true. Yes.
BY MR. BURNETT:
Q. Okay. Or -- excuse me. If he had done that, that -- and he had seen that they were going progressively lower, that would have tipped him off to a continued internal bleed from the ablation site. Fair?
A. I think that's fair.
Q. Okay. And then he would have been

Page 74

faced with the decision as to whether or not to stop the anticoagulants, the blood thinning medicine, and to get a surgical consult. Right?

A. Right. I think -- you know, it's easy knowing what happened knowing that her bleeding was severe on the evening of the 5th, had he done something a few hours before then, he probably would have caught it earlier and maybe been able to intervene successfully. But you could argue for now many days she had been very, very stable and had he gotten CAT scans every six hours for the days before, everything probably would have looked fine and he would have been falsely reassured that she was not in any trouble.

Had he gotten -- you know, every four to six hours gotten a hemoglobin analysis on the 1st and the 2nd and the 3rd and the 4th, he would again have been falsely reassured that she was stable and not bleeding and would have been fine. I think it's easy to say after the fact that, gee, since she had this catastrophic event then,

Page 75

if we would have had the values right before then, we could have predicted it a little bit earlier. That is true I agree. But there was nothing clinically to suggest she was having any problems just because for the most part her blood pressure was pretty reasonable, she was awake, she was feeling pretty well. The hematoma hadn't expanded in size.

Q. But we also know that on the 4th and certainly on the 5th he had prescribed medications and held her diuretics in such a way that certainly changes clinically -- okay -- what might tip a physician off that a patient is experiencing an internal bleed could also be attributed to those medications or the fact of holding the diuretics.

A. I think that's true. But again, these are life sustaining medicines that are starting -- I guess now that she's almost a week out of her procedure and you're starting to think about discharge, you want to put her on the best medications to give her the best possible chance at a good quality of life and improved heart function, decreased hospitalization. So I think --

Page 76

Q. And I don't disagree with you. But I think again we're coming to the crux of our disagreement, and that is, given the fact that he had held the diuretics, prescribed the medicine, and was not doing serial hemoglobin and hematocrit tests, he could be falsely reassured that everything was okay during that period of time if she was experiencing a slow ongoing bleed because he could attribute altered mental state to the Ativan or the decrease in blood pressure to the Isordil.

A. I agree with that.

Q. Okay. And I think also when we talk about clinically, I think you told me in your deposition that as long as things are okay hemodynamically, there's no reason to suspect a bleed. Fair?

A. Yeah. I think in somebody who's now six or seven days out from the procedure, that would be a very unusual time. I think you're much more confident that things are stable at this point.

Q. But to really get a handle on her hemodynamics, you need to do a hemoglobin and

Page 77

hematocrit test, don't you?

A. It depends how -- hemodynamics are usually pulse and blood pressure. They had been measuring them on a routine basis.

Q. And just so the jury understands your position, again given the fact that the diuretics were held, Ativan was prescribed, Isordil was prescribed, under these circumstances he was still not outside the standard of care to have not done a hemoglobin and hematocrit test for that 40 hour period of time.

A. I agree that was still within the standard of care.

Q. Okay. And it was still not outside the standard of care, in your opinion, not to have done a hemoglobin and hematocrit test at least once in the early morning hours of the 5th.

A. I think in retrospect, that clearly would have been helpful but I don't think there was any reason in her clinical situation to dictate that it was needed.

MR. BURNETT: Thank you. I don't have any other questions.

THE WITNESS: You're welcome.

MR. LEAK: I have no further questions.

THE VIDEO OPERATOR: This concludes the deposition. We are off record at 11:17:59.

(The deposition was concluded at 11:17 a.m.)

DESCRIPTION OF EXHIBITS

EXHIBIT	DESCRIPTION
A	Curriculum vitae (Attached to the Transcript)

CERTIFICATE OF SHORTHAND REPORTER - NOTARY PUBLIC

I, Alda Mandell, Registered Professional Reporter, the officer before whom the foregoing proceedings were taken, do hereby certify that the foregoing transcript is a true and correct record of the proceedings; that said proceedings were taken by me stenographically and thereafter reduced to typewriting under my supervision; and that I am neither counsel for, related to, nor employed by any of the parties to this case and have no interest, financial or otherwise, in its outcome.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal this 20th day of July 2004.

My commission expires: June 30, 2006

_____

NOTARY PUBLIC IN AND FOR THE DISTRICT OF COLUMBIA