

State of Ohio)
County of Lorain)

- - -

IN THE COURT OF COMMON PLEAS

- - -

James J. Armstrong, Executor of
the Estate of Nancy Armstrong,

Plaintiff,

Case No. CV126180

vs.

EMH Regional Healthcare System,
d/b/a Amherst Hospital, et al.,

Defendants.

Annapolis, Maryland

Tuesday, May 21, 2002

Videoconference deposition of

DAVID CHARLES BRANDON, M. D.,

called for examination by counsel for Plaintiff, pursuant
to Notice, at the offices of Video Communications, 222
Severn Avenue, Suite 3, Annapolis, Maryland, 21043,
commencing at approximately 6:45 p.m., before Suzanne
Giles, a Notary Public in and for the State of Maryland,
when were present on behalf of the respective parties:

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On behalf of the Plaintiff:

THOMAS E. CONWAY, ESQUIRE
 DONNA TAYLOR-KOLIS, ESQUIRE
 Friedman, Domiano & Smith Co., L.P.A.
 Sixth Floor - Standard Building
 1370 Ontario Street
 Cleveland, Ohio 44113-1704

On behalf of the Defendant, Briccio Celerio, M.D.:

RONALD A. RISPO, ESQUIRE
 Weston Hurd Fallon Paisley & Howley L.L.P.
 2500 Terminal Tower
 50 Public Square
 Cleveland, Ohio 44113-2241

On behalf of the Defendant, Paul Bartilucca, M.D.:

MARK FRASURE, ESQUIRE
 4518 Fulton Drive, NW
 Post Office Box 35548
 Canton, Ohio 44735-5548

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1 PROCEEDINGS

2 Whereupon,

3 DAVID CHARLES BRANDON, M D

4 was called for examination and, having been first duly
 5 sworn, was examined and testified as follows

6 EXAMINATION BY COUNSEL FOR PLAMTIF

7 BY MR. CONWAY

8 Q Dr Brandon, my name is Toni Conway I'm one
 9 of the attorneys, along with Donna Kolis, who
 10 represent the Armstrong family in this case I'm
 11 going to be taking your deposition

12 Would you please state your full name for
 13 the record, spelling your last name for the court
 14 reporter?

15 A David Charles Brandon, B-r-a-n-d-o-n.

16 Q Dr Brandon, this is going to be my only
 17 opportunity to speak with you prior to trial and ask
 18 you questions regarding your opinion and your
 19 understanding of this case

20 I would ask that you do not answer any
 21 question which you do not understand If you do not
 22 understand a question, please ask me to rephrase it or

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WITNESS EXAMINATION BY PAGE

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EXHIBITS

PLAINTIFF'S FOR IDENTIFICATION

No. 1 (British Heart Journal 27
 article)

No. 2 (American Journal of 27
 Medicine article)

No. 3 (5-10-02 fax cover sheet) 27

(Exhibits attached.)

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1 restate it. And I will do so If you do answer a
 2 question, I will assume and rely upon the fact that
 3 you understood the question. Is that fair?

4 A Yes.

5 Q If at any time you need to take a break, let
 6 us know We'll be glad to accommodate you. And if at
 7 any time you feel like changing, supplementing,
 8 deleting an answer that you've previously given, feel
 9 free to do so, okay?

10 A Okay.

11 Q And you understand that you are under oath.
 12 Everything you say is being taken down by the court
 13 reporter, and it has the same legal effect as if you
 14 were in front of a judge and jury in the actual trial
 15 of this case You undeistand that?

16 A Yes.

17 Q Doctor, I noticed on the Internet that there
 18 is a Web site called David Charles Brandon, M D.,
 19 Anesthesia Is that a corporation?

20 A I didn't even kiow that that Web site was
 21 there. Is that in conjunction with ExpertPages.com?

22 Q Yes

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1 A I don't know whether that's a corporation or
 2 not.
 3 Q Okay. I guess I'm just wondering if you
 4 have your own corporation set up to handle expert-
 5 witness matters in connection with ExpertPages.com.
 6 A No.
 7 Q All right. I assume that your name and your
 8 Web site is on the Internet with your permission.
 9 Would that be correct?
 10 A Yes.
 11 Q All right. And it indicates in your Web
 12 site that you will be able to back up anything you say
 13 from commonly accepted textbooks or journals. I take
 14 it that you are responsible for putting that sentence
 15 into your Web site. Would I be correct?
 16 A Yes.
 17 Q All right. How did you first become
 18 associated with ExpertPages.com and begin your
 19 advertising as an expert witness?
 20 A I saw their ad in a magazine, and I called
 21 them up to see what it was. And they encouraged me to
 22 give it a try.

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1 satisfied with their answers.
 2 Q What were the bunch of questions that you
 3 asked?
 4 A I don't remember anymore. It was a couple
 5 of years ago.
 6 Q Do you have a contract with them that you
 7 signed?
 8 A I don't think so, not that I know of. I
 9 think they just send me an annual bill.
 10 Q How many customers have you gotten off of
 11 your Internet Web site?
 12 A I don't know exactly. I would say probably
 13 ten or 15 maybe over the last two or three years.
 14 Q So you've advertised on there approximately
 15 three years?
 16 A I think I started with them -- yes, it's
 17 probably been about three years. I don't actually
 18 remember, to be honest with you.
 19 Q Do you market yourself or advertise in
 20 connection with any other type of organization other
 21 than ExpertPages.com?
 22 A The only other thing that I know of at this

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1 Q How much do you pay to be associated with
 2 Expertpages.com?
 3 A I don't know the exact fee, but it's an
 4 annual fee. And I think it's a couple of hundred
 5 dollars.
 6 Q And what's the procedure for how you
 7 actually get customers? Do they contact you? Or do
 8 they go through ExpertPages.com?
 9 A They contact me directly.
 10 Q And do you work out whatever the fee
 11 arrangement will be with your customer? Or does
 12 Expertpages.com get some of that money?
 13 A ExpertPages.com doesn't get anything. And I
 14 work out the fee arrangement independent of
 15 ExpertPages.com.
 16 Q Now, are you familiar with the organization
 17 or the corporation ExpertPages.com?
 18 A I'm not really familiar with it, no.
 19 Q Did you look into their background and
 20 organization prior to deciding to advertise in
 21 connection with them?
 22 A I asked them a bunch of questions, and I was

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1 point is Guy Saponaro. I guess it's called Saponaro,
 2 Incorporated. I'm not sure where they are. They're
 3 in the Midwest somewhere. He refers attorneys to
 4 different experts in all kinds of fields. And I think
 5 my name is with him also.
 6 Q Okay. Do you know a Dr. Burkons? He's
 7 another expert witness in this case that also uses Guy
 8 Saponaro.
 9 A I don't think I know him.
 10 Q And how many cases have you gotten through
 11 Guy Saponaro over the years?
 12 A I don't know, but I would say it's probably
 13 four or five.
 14 Q Are you a member of the American Society of
 15 Anesthesia?
 16 A Yes.
 17 Q Do you think that's a reputable
 18 organization?
 19 A Most of the time.
 20 Q When isn't it, to your knowledge?
 21 A Excuse me?
 22 Q You said most of the time. When isn't it

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1 reputable?

2 A I don't really know for sure. I wouldn't
3 know any specific reasons to think they are not
4 reputable.

5 Q Okay. I was just wondering by your answer.
6 It indicated on your c v that you were the chief of
7 the Department of Anesthesia and director of surgical
8 services at a Sacred Heart Hospital from 1995 through
9 1998 Did I read your c v. correctly?

io A Yes. Well, it's not through **1998**. I think
11 it was up until **1998**.

12 Q How many bed hospital is Sacred Heart
13 Hospital?

14 A I think it was 250.

15 Q What town was Sacred Heart Hospital located
16 in?

17 A Cumberland, Maryland.

18 Q What month and what year did you leave
19 Sacred Heart Hospital?

20 A I think it was June of '98.

21 Q Did you leave as a result of any problem,
22 disciplinary action or the like?

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1 coming fall. And we wanted to move closer down to
2 what we thought would be an easy commute to Baltimore.

3 Q And you stayed at Saint Mary's Hospital for
4 how long?

5 A I think I was there about four months.

6 Q And why did you leave there?

7 A I wanted to move up closer to D. C. And I
8 got a job at Washington Hospital Center in Washington,
9 D. C.

10 Q How many bed hospital was Saint Mary's?

11 A I don't remember, but it wasn't very big. I
12 think it was probably less than 200.

13 Q And you went to a hospital in Washington, D

14 C What was the name of that hospital?

15 A Washington Hospital Center.

16 Q Am I missing that? Is that on your c v ?

17 A I don't have my c.v. in front of me, but I'd
18 be surprised if it's not on there. It's called
19 Washington Hospital Center in Washington, D. C.

20 Q And how long were you there?

21 A Just under two years.

22 Q And why did you leave there?

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1 A No.

2 Q You left there Where did you go then?

3 A I did a short stay at Saint Mary's Hospital
4 in Saint Mary's County, Maryland.

5 Q What's the closest city to Saint Mary's
6 Hospital?

7 A The closest big city would probably be
8 Washington, D. C. It's southeast of Washington.

9 Q By how many miles?

10 A Probably 30 or 40.

11 Q And it's my understanding you were a locum
12 tenems there?

13 A Well, that's what I call it, because it was
14 less than six months.

15 Q And what was your position there?

16 A I was an anesthesiologist, and I also did
17 pain management.

18 Q Why did you leave Sacred Heart Hospital in
19 June of -- did I get that right? -- June of 1998?

20 A That's correct. I left there. My wife
21 started a master's degree program in Baltimore. Well,
22 she was accepted to one and **was** going to start one the

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1 A I got a job at Providence Hospital, also in
2 Washington, D. C., that I thought was going to be a
3 better position.

4 Q Did you go to that position?

5 A Yes.

6 Q And how long were you there?

7 A About six months.

8 Q And you left there. And why did you leave
9 there?

10 A We decided to move out of the city
11 altogether and moved over to the Eastern Shore of
12 Maryland. And so I left that job and started a new
13 one over here.

14 Q Where at? It says you were at Southern
15 Maryland Hospital Center, locum tenems, in June of
16 2000. Were you at Southern Maryland Hospital Center?

17 A June of 2000, I think I did a week there as
18 a locum tenems. That was while I was still at
19 Washington Hospital Center.

20 Q Where are you currently at, Doctor?

21 A Right now I'm at Chesapeake Surgery Center
22 in Salisbury, Maryland.

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1 Q Is that a hospital?
 2 A It's an outpatient surgery facility.
 3 Q Do you have hospital privileges anywhere
 4 right now, Doctor?
 5 A I have not stopped my privileges at
 6 Washington Hospital Center and Providence Hospital,
 7 but I don't go there anymore.
 8 Q Doctor, have you ever been discipliined by
 9 either a hospital or any medical organization --
 10 A No.
 11 Q -- for any reason?
 12 A No.
 13 Q So your job right now is at Chesapeake
 14 Surgery Center?
 15 A Yes.
 16 Q And where is that located?
 17 A Salisbury, Maryland.
 18 Q Is that an outpatient facility?
 19 A Yes.
 20 Q Do any patients at this surgery center ever
 21 spend the night?
 22 A No.

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1 procedure where they should be expected to go home
 2 that day.
 3 Q I want to limit it to gynecological or
 4 obstetric type surgeries. What type of obstetrical or
 5 gynecological surgeries are done at Chesapeake Surgery
 6 Center?
 7 A We do laparoscopic examinations. We do
 8 laparoscopic tubal ligations, D and C's,
 9 hysteroscopies, exams under anesthesia.
 10 Q Anything else?
 11 A And I think that would probably be about it.
 12 Q Well, you don't do total abdominal
 13 hysterectomies there, do you, Doctor?
 14 A No. That wasn't in the list I just gave
 15 you.
 16 Q Right. And I just wanted to confirm that
 17 you don't do those procedures at Chesapeake Surgery
 18 Center where you've been employed since May 2001. Is
 19 that correct?
 20 A That's right.
 21 Q Are you an employee of Chesapeake Surgery
 22 Center, part owner, independent contractor, what?

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1 Q So they come in for same-day surgery, and
 2 they leave. Is that correct?
 3 A Yes.
 4 Q And when did you first start? What was the
 5 exact date, Doctor, if you can recall?
 6 A I think it was early May of 2001.
 7 Q Do they do pain management at Chesapeake
 8 Surgery Center?
 9 A Yes.
 10 Q What's your percentage of pain-management
 11 patients at that center versus anesthesiology patients
 12 for surgery?
 13 A I would say that it varies from time to
 14 time, but it probably averages roughly 20 percent pain
 15 management.
 16 Q How many patients do you see a day,
 17 approximately?
 18 A On an average, probably eight a day.
 19 Q What kinds of surgery do they do at
 20 Chesapeake Surgery Center?
 21 A They do pediatrics and adults, both healthy
 22 and sicker patients, for just about any kind of

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1 A I am an independent contractor.
 2 Q Who owns Chesapeake Surgery Center?
 3 A Peninsula Surgical Group.
 4 Q Are you an employee or a part owner of that
 5 group?
 6 A No.
 7 Q Doctor, did you pass your board
 8 certifications on the first attempt?
 9 A Yes.
 10 Q Have you, Doctor, ever become familiar with
 11 the American Society of Anesthesiology standards?
 12 A I have looked at them from time to time.
 13 Q Have you had an opportunity to look at them
 14 within the last week?
 15 A I don't think so.
 16 Q Did you discuss those with Mr. Rispo at any
 17 time prior to this deposition?
 18 A I don't remember whether I have or not.
 19 MR. CONWAY: Did he discuss this with you,
 20 the ASA standards, before the deposition?
 21 MR. RISPO: No.
 22 BY MR. CONWAY:

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1 Q Doctor, approximately how many depositions
2 have you given, Doctor, during the course of your
3 expert-witness career?

4 A I would say that I am in the upper 30's, but
5 I don't know the exact number.

6 Q And how many times have you testified in
7 trial, Doctor?

8 A I believe six or seven.

9 Q Obviously, from your deposition testimony,
10 it's clear that you do the (audio gap) amount of
11 testifying for (audio gap) --

12 A Are you still there?

13 (Off the record while the connection is
14 reestablished.)

15 **BY MR. CONWAY:**

16 Q Doctor, can you hear me, Doctor?

17 A Yes.

18 Q Doctor, is it true that you do the majority
19 of your expert-witness testimony on behalf of doctors
20 and/or hospitals?

21 A No. I do the majority of my work on behalf
22 of the plaintiff.

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1 expert for him?

2 A I think just one.

3 Q That particular case, that was Metro Health
4 Center of Cleveland, Ohio, correct?

5 A I don't remember exactly. I think that's
6 what it was. But I was more on the defense on the
7 anesthesiologist, and I don't remember his name.

8 Q Okay. But that case in Cleveland you were
9 an expert witness for a defendant doctor. Is that
10 correct?

11 A Yes.

12 Q Are there any cases in Cleveland where you
13 can think of that you were an expert for the
14 plaintiff?

15 A Yes, except I can't remember the name of the
16 plaintiff. But I think that the attorney's name was
17 Cohn. C-o-h-n I think is the way he spelled it.

18 Q Doctor, have you done any defense work for
19 any other Cleveland law firms?

20 A I'd have to go back and look. There is
21 another defense case that way somewhere, but I don't
22 remember whether it was Cleveland or not.

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1 Q And that's your testimony under oath,
2 Doctor?

3 A Yes.

4 Q What percentage do you testify that you do
5 expert-witness review on behalf of the plaintiff,

6 A Probably 90 percent.

7 Q Have you kept records associated with your
8 expert-witness enterprise which would substantiate
9 those numbers?

10 A I don't really have records or logs. But I
11 can tell you all of my defense cases, which aren't
12 very many. And I must have at least ten times as many
13 plaintiff cases.

14 Q Doctor, have you done work for a law firm
15 that Mr. Rispo is a partner with, Weston, Hurd in
16 Cleveland, Ohio?

17 A I don't think so.

18 Q Have you done work for Jeffrey Van Wagner in
19 Cleveland, Ohio, with another defense law firm?

20 A Yes.

21 Q And Jeffrey Van Wagner -- I believe he's
22 with Oiner and Burn. How many cases have you been an

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1 Q How did Mr. Rispo come to get your Web page,
2 address, or name or information about you?

3 A I don't know.

4 Q Did he ever indicate to you how he found out
5 about you?

6 A He may have, but I don't remember. I just
7 assumed that it probably came through Van Wagner's
8 office.

9 Q Why would you assume that?

10 A Because they are both in Cleveland.

11 Q Doctor, you're not board certified in
12 critical care medicine, are you?

13 A No.

14 Q Have you ever taken the boards?

15 A No.

16 Q Are you board eligible?

17 A I don't think I am, no.

18 Q How much did you charge Mr. Rispo for your
19 review of the case?

20 A I charge \$250 dollars an hour, and I don't
21 know how many hours I have in it altogether.

22 Q And how much are you going to charge to come

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1 and testify live at trial',
 2 A I charge \$2400 dollars for the day, plus I
 3 like to have my expenses taken care of.
 4 Q So \$1,000 dollars an hour plus expenses, is
 5 that right? Or am I, like, total -- \$100 dollars an
 6 hour plus expenses?
 7 A Well, if you break into a 24-hour day, I
 8 guess it would be \$100 dollars an hour. But I hope
 9 it's just an eight-hour workday.
 10 Q Okay I thought I was going to be able to
 11 impeach you with even higher than that I mis-added
 12 How many hours have you put into your review of this
 13 case up until now, Doctor?
 14 A I didn't look at that before coming over
 15 here, so I guess I'd have to get back to you on that.
 16 But it's probably in the area of about ten hours
 17 altogether.
 18 Q And you're charging the plaintiffs how much
 19 per hour to take your deposition, Doctor?
 20 A I'm not charging by the hour. I'm just
 21 charging for the whole deposition as one fee.
 22 Q All right And how much are you charging?

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1 A \$1400 dollars.
 2 Q So if we took a two-hour deposition, that
 3 would work out to a non-refundable \$700 dollars an
 4 hour Is that correct"
 5 A That's right.
 6 Q Doctor, you have --
 7 MR. RISPO Excuse me But I think to set
 8 the record straight, the doctor had to drive two and a
 9 half hours to get to the meeting site and has to
 10 return home two and a half hours after this
 11 deposition That time should also be included in that
 12 rate.
 13 MR CONWAY We'll take that up afterwards,
 14 all right? At \$700 dollars an hour I want him to do
 15 the talking
 16 MR RISPO Well, now let's be fair
 17 MR CONWAY We will be fair afterwards
 18 We'll discuss all of that He's got his money for
 19 this, and we've paid these people So, I mean, we can
 20 take that up later
 21 BY MR CONWAY
 22 Q Doctor, do you have your file in front of

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1 you right now?
 2 A Yes.
 3 Q All right You tell me --just give me an
 4 itemized list of what materials you have in front of
 5 you.
 6 A I have the office records from Paul
 7 Bartilucca or Bartiluca -- I'm not sure how you say
 8 his name -- the office records of William Richardson,
 9 the death certificate of Nancy Armstrong, the Amherst
 10 Hospital records from the hospitalization starting
 11 August 7th, 1999. I've got something called the
 12 Complaint in the Court of Common Pleas for Lorain
 13 County, Ohio. I've got my report dated July 10th,
 14 2001. I've got a report of Allen Kravitz. I've got
 15 the deposition of Dr. Celerio. I've got a report of
 16 Dr. Lyons, a report of Dr. Mendelson, the deposition
 17 of Dr. Bartilucca, a report from Dr. London, a couple
 18 of reports from Dr. Smithson and his deposition, a
 19 report of Dr. Watts, a report from Dr. Burkons.
 20 Q Anything else?
 21 A I've got two articles, one called "Sudden
 22 death in a patient with amyloidosis of the cardiac

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1 conduction system" from the British Heart Journal,
 2 1984; and one, The American Journal of Medicine,
 3 Volume 62, "The Conduction System in Cardiac
 4 Amyloidosis."
 5 Q Anything else, Doctor?
 6 A No.
 7 Q Do you have the deposition of Dr.
 8 Richardson?
 9 A Yes, I do. I'm sorry; I had that underneath
 10 his office file.
 11 Q Do you have any correspondence from Mr.
 12 Riso to you, including enclosure letters?
 13 A I do, but I don't have those with me.
 14 Q Why wouldn't you bring those with you,
 15 Doctor?
 16 A Because they didn't have any influence over
 17 my opinions; and I just brought the records, so I
 18 wouldn't have a lot of extraneous things on the desk
 19 here.
 20 Q Doctor, how many pieces of correspondence to
 21 you estimate that you forgot to bring with you or
 22 chose not to bring with you to this deposition',

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1 **A** Probably five or six. With each thing I
 2 got, I got a little letter that said, "Here's the
 3 thing you're getting."
 4 **Q** Doctor, you have those at your office. Is
 5 that correct?
 6 **A** Yes.
 7 **Q** And obviously if we made a -- I believe we
 8 sent a notice out with this deposition for your entire
 9 file. Doctor, you'd be in a position to make those
 10 available to Mr. Rispo so he could provide those to
 11 us, would you not?
 12 **A** I never got a notice like that, but I don't
 13 mind providing them to anybody.
 14 **Q** Doctor, how many drafts of your report did
 15 you make?
 16 **A** Just the one that I submitted.
 17 **Q** Did you write out any notes regarding your
 18 review of the depositions or the medical records?
 19 **A** No.
 20 **Q** These two articles -- could you hand those
 21 to the court reporter, so she could mark those as
 22 exhibits, please?

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1 **BY MR CONWAY**
 2 **Q** What's that piece of correspondence that you
 3 happened to bring?
 4 **A** That's a facsimile cover sheet for the two
 5 articles that I received by fax from Mr. Rispo.
 6 **Q** Oh, I'm sorry I was under the impression
 7 you had done some medical research. Those articles
 8 were actually provided to you by Mr. Rispo?
 9 **A** Yes, at my request.
 10 **Q** What date is that fax cover letter?
 11 **A** 5-10-02.
 12 **Q** Did you have a phone conversation with Mr
 13 Rispo before he faxed those medical articles to you?
 14 **A** Yes.
 15 **Q** And why don't you tell me about that
 16 conversation?
 17 **A** I asked him if there were any articles that
 18 anybody else might be relying on or using for this
 19 case that might have any interest. And he said he
 20 thought there were a couple of them. And I just asked
 21 him to fax them to me.
 22 **Q** Who did Mr. Rispo tell you was relying upon

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1 **THE WITNESS: (Complying.)**
 2 **MR. CONWAY:** Let's mark the British article
 3 Plaintiffs Exhibit Number 1.
 4 (Whereupon, the document was marked
 5 Plaintiffs Deposition Exhibit Number
 6 1, for identification.)
 7 **MR. CONWAY:** And we can mark the second
 8 exhibit -- what journal was that from, Doctor?
 9 **THE WITNESS:** The American Journal of
 10 Medicine.
 11 **MR. CONWAY:** Why don't we mark that as
 12 Exhibit Number 2?
 13 (Whereupon, the document was marked
 14 Plaintiffs Deposition Exhibit Number
 15 2, for identification.)
 16 **THE WITNESS:** I did have one piece of
 17 correspondence.
 18 **MR. CONWAY:** We can mark that Exhibit Number
 19 3.
 20 (Whereupon, the document was inarked
 21 Plaintiffs Deposition Exhibit Number
 22 3, for identification.)

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1 these two articles?
 2 **A** He didn't tell me anybody was relying on
 3 them. I just asked him if he had any that other
 4 people may have been using or he used himself. And he
 5 didn't give me any names at all.
 6 **Q** Did you do any medical literature research
 7 on your own in this case?
 8 **A** No. I didn't really need to. The issues
 9 were fairly basic to me.
 10 **Q** Are you, pursuant to you advertiseinent,
 11 backing up your opinions with any medical literature
 12 other than what Mr. Rispo has provided you?
 13 **A** Not really. I don't think I need to.
 14 **Q** Did you need the things Mr. Rispo sent you
 15 in order to formulate your opinion in this case?
 16 **A** No. I only got these about ten days ago.
 17 My opinion was already fairly solid. Actually it was
 18 totally solid at that point, and the articles actually
 19 didn't help me at all.
 20 **Q** Did they help Mr. Rispo at all, if you know
 21 from your conversation with him?
 22 **A** I don't know.

<p style="text-align: right;">Page 30</p> <p>1 Q Doctor, how much a year do you generate in 2 expert-witness income from your business as an expert 3 witness? 4 A I don't know. 5 Q Approximately how much, Doctor? 6 A I don't have any approximation on that. 7 Q Doctor, I don't mean to be difficult But 8 you just would have filed your income tax for this 9 year Do you have an approximation you can give me as 10 to -- you can do it one of two ways, Doctor, either 11 how much you generated in dollars for your expert- 12 witness business; or you can give me a percentage of 13 your overall income that you generated as a result of 14 your expert-witness business You give me whatever is 15 your pleasure I don't mean to pry 16 A I think that around 15 percent of my overall 17 income would have been from expert witnessing. 18 Q Doctor, what's your Social Security number? 19 A I don't give that out, but I'll be happy to 20 give you my tax ID number if you want that. 21 Q That's fine You can give me your tax ID 22 number</p>	<p style="text-align: right;">Page 32</p> <p>1 the range of numbers. 2 Q Is massive cardiomegaly in a patient an 3 absolute contraindication to putting them under 4 general anesthesia? 5 A No. 6 Q What kind of patient, Doctor, would you as 7 an anesthesiologist -- what kind of surgeries would -- 8 strike that. 9 What kind of surgeries, Doctor, would you 10 put a patient under when that patient is suffering 11 from massive cardiomegaly with pericardial effusion? 12 A I don't think there are any surgeries that I 13 wouldn't do if I counseled the patient to their 14 additional risk because of that and also if I had the 15 appropriate equipment that I would need to safely put 16 them to sleep. 17 Q Doctor, would it be below the standard of 18 care for an anesthesiologist not to counsel a patient 19 with massive cardiomegaly with pericardial effusions 20 about her condition prior to putting them under? 21 A It depends on the doctor-patient 22 relationship that they have and how much information</p>
<p style="text-align: right;">Page 31</p> <p>1 A It's 522312872. 2 Q Doctor, you had an opportunity to read the 3 coroner's verdict in this case, didn't you? 4 A Yes. 5 Q And in that coroner's verdict, the coroner 6 in this case had a finding that Nancy Armstrong was 7 suffering from massive cardiomegaly with pericardial 8 effusion 9 A That's right. 10 Q Based upon your review of the medical record 11 and what the testimony has been in this case, would 12 you agree with that anatomic diagnosis of massive 13 cardiomegaly with pericardial effusion? 14 A Yes. 15 Q All right What is massive cardiomegaly, 16 Doctor? 17 A That is an enlarged heart that is more 18 enlarged than the usual enlarged heart. 19 Q Okay Now, for someone the age of Mrs 20 Armstrong in this case, how much should her heart have 21 weighed if it was normal size? 22 A I don't know the exact number for that, for</p>	<p style="text-align: right;">Page 33</p> <p>1 the patient actually wants to know. 2 But in general it's --the usual standard of 3 care would require some discussion of risk. Whether 4 or not the specifics are something that the patient 5 wants to know would be something that I can't tell in 6 this case. 7 But sometimes patients just don't want to 8 know anything about what's wrong with them. They just 9 want to what their risk is. And sometimes they don't 10 even want to know that. 11 So the standard kind of varies. You can't 12 force them into a conversation. But you should at 13 least tell them their relative risk under anesthesia 14 in order to have a complete informed consent. 15 Q Well, Doctor, would you agree that there is 16 a difference in risk between a patient with massive 17 cardiomegaly and a patient with a normal-sized heart, 18 all other things being equal? 19 A I'm not sure what you mean by all other 20 things being equal. If all other things are normal, 21 then the risk would be greater with the patient with 22 massive Cardiomegaly.</p>

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1 Q And why is a patient with massive
2 cardiomegaly more at risk when surgery entails putting
3 them under completely with anesthesia?
4 A Because the size of the heart versus the
5 amount of blood flow that it can receive for its own
6 nutrient and oxygen consumption is proportional -- or
7 actually inversely proportional. The larger the
8 heart, the harder it is to feed.
9 So if you have a stressful situation like
10 under anesthesia in the operating room, then you can
11 expect more difficulty in feeding the heart, so to
12 speak, if you've got larger heart, especially --
13 Q In -- oh, I'm sorry Go ahead, Doctor
14 A I was going to say especially because the
15 time frame that most of the heart relies on for blood
16 flow is during the diastolic phase, the resting phase,
17 of the heart, in which case the peripheral vascular
18 system, its elasticity and contractility -- it's the
19 ability to do those things which improves the blood
20 flow to the heart, back flow, that is, to the heart.
21 So all things being equal, if you've got
22 normal vasculature, then a larger heart would be

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1 expected to suffer more than a smaller heart.
2 Q Doctor, putting a patient under general
3 anesthetic is a significant stress upon that patient's
4 heart, isn't it?
5 A I think it's a stress on the heart. I think
6 the degree of significance is related to the kind of
7 health that the patient is in. Some patients, I don't
8 really think it's much of a stress at all. But other
9 patients, it's extremely stressful.
10 Q Patients who might be suffering from an
11 ongoing myocardial infarction -- would that be
12 stressful to them to put under a general anesthetic?
13 A Yes.
14 Q Patients suffering from amyloidosis
15 involving the heart -- would that be stressful to
16 those patients to be put under anesthetic?
17 A Yes.
18 Q Doctor, if you knew that a patient was
19 suffering from amyloidosis involving the heart, would
20 you put that patient under full general anesthetic for
21 a total abdominal hysterectomy?
22 MR RISPO Let the record reflect the

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1 objection There is no evidence whatsoever in this
2 case that anybody knew of the patient's condition of
3 amyloidosis before she was induced into surgery or
4 anesthetic And questions along that line are totally
5 unfair
6 MR CONWAY You may answer the question,
7 Doctor Could you please repeat that, Madam Court
8 Reporter?
9 (Whereupon, the Reporter played back the
10 tape, as requested)
11 MR CONWAY You may answer, Doctor
12 THE WITNESS The question was whether or
13 not I would be willing to put a patient with amyloid
14 heart disease under general anesthesia And the
15 answer would be yes
16 BY MR CONWAY
17 Q For a total abdomiial hysterectomy, Doctor')
18 A Yes.
19 Q What type of iinduchon agent would you use,
20 Doctor?
21 A Well, there would be things that I would be
22 doing before induction if I actually knew somebody had

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1 amyloid heart disease. So --
2 Q Rut my question is what agent would you use
3 to put a patient who's suffering from primary
4 amyloidosis under general anesthesia?
5 A Well, I think that that question -- I can't
6 answer that without telling you what I would do
7 preoperatively, because it wouldn't make any sense to
8 put them to sleep with amyloid heart disease
9 without --
10 Q Okay Tell me what you would do
11 preoperatively, then, Doctor
12 A Well, first of all, I would examine the
13 patient thoroughly, and I would look at their
14 available medical records if I had any. And I would
15 counsel them thoroughly to talk about their risks
16 under anesthesia, which would be significant.
17 And then they would require some invasive
18 monitoring, which would include an arterial catheter
19 and a pulmonary-artery catheter. And then I would put
20 them to sleep.
21 Q What agent would you use, Doctor?
22 A Well, it would depend on what else they had

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1 wrong with them. So if you can give me more details
2 about the rest of their medical problems, I can be
3 more selective about the medications that I would use.

4 Q Okay How about they have cardiomegaly,
5 massive cardiomegaly; they have pleural effusions,
6 they have shortness of breath upon minimum exertion,
7 they have edema of the feet Let's start with that
8 What kind of agent would you use with a patient who --
9 oh, they have just had an EKG which is read by a
10 cardiology group to be a possible MI, age
11 undetermined.

12 Giving you those set of circumstances,
13 Doctor, in a hypothetical, you being the
14 anesthesiologist, what type of agent would you use to
15 put that patient under?

16 MR RISPO Let the record reflect a
17 continuing objection based upon this hypothetical,
18 asking the doctor to assume the patient had
19 amyloidosis of the heart and all these other
20 conditions, when those conditions were not in fact
21 known, and the same objection as relates to
22 cardiomegaly, when in fact that was not known at the

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1 room.

2 If they really wanted the operation and were
3 willing to undergo the risks, it wouldn't be an
4 impossible case to do. it would just be extremely
5 risky.

6 And I would use as an induction agent most
7 likely Etomidate or a very low dose of Pentothal. And
8 I would titrate those on carefully and slowly and
9 watch how things go.

10 Q And I think you mentioned in there that if
11 you had concerns about different risk factors for a
12 given surgery, you would make the patient aware of
13 those risk factors, so they could make an informed and
14 voluntary consent to that surgery. Would that be
15 correct?

16 A Yes. That would also be after knowing for
17 sure that the patient was optimized for surgery. I
18 simply wouldn't just take somebody to the operating
19 room unless I knew for sure that they were as good as
20 they were going to get.

21 If the patient had no chance of getting any
22 better or any healthier and still needed the

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1 time the patient was put under anesthesia

2 MR CONWAY Okay And I'd like to go on
3 the record -- and I'm not going to start a fight But
4 the proper way to object is to object There are no
5 speaking objections

6 And if you want to instruct him to not
7 answer a question, if you feel you have the right to
8 do so, please do so or object But please don't coach
9 the witness

10 BY MR CONWAY

11 Q Anyway, Doctor, given that --

12 MR RISPO If you ask a fair question, then
13 we won't have problems

14 BY MR CONWAY

15 Q Given that hypothetical, Doctor, your
16 putting yourself in the position, what agents would
17 you use for that particular patient?

18 A Well, first of all, that patient would be a
19 very high risk of problems under anesthesia; and they
20 would have to know that and accept those risks,
21 knowing that their survival rate wasn't anywhere near
22 as good as a normal person coming into the operating

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1 operation, then I would be willing to do it.

2 But the risk and the assumption of that risk
3 would be on the patient, and I would counsel them
4 about that.

5 Q Okay

6 A I've taken patients to the operating room a
7 lot sicker than this lady.

8 Q Okay And I would assume that you explained
9 exactly what all the risk factors and possible
10 problems were associated with their conditions and the
11 administration of anesthesia, correct?

12 A I would tell them as much as they really
13 wanted to know. If they wanted to know everything and
14 they wanted me to sound like a textbook, I would be
15 happy to do that for them.

16 Or I would just tell them that their chances
17 of dying were pretty darned high, but I would do my
18 best to keep them alive if something bad happened.

19 Q Doctor, would you agree that the American
20 Society of Anesthesia's statements on preoperative
21 laboratory and diagnostic screening are reasonable and
22 prudent standards?

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1 A I'd have to see exactly what you're talking
2 about. But generally most of those standards that
3 they put out are reasonable and prudent.

4 Q Doctor, would you agree with the proposition
5 that individual anesthesiologists should order tests
6 when, in their judgment, the results may influence
7 decisions regarding risks and management of the
8 anesthesia in surgery?

9 A Yes.

10 Q Do you agree that relevant abnormalities in
11 the patient's condition should be noted and action
12 taken if appropriate?

13 A Somebody was rattling some papers. I
14 couldn't hear the first part of that question.

15 Q Would you agree that relevant abnormalities
16 in a patient's condition pre-surgically should be
17 noted and then action taken if appropriate?

18 A Yes.

19 Q Would you agree, Doctor, that minimal
20 patient care should include preoperative instructions
21 and preparation?

22 A To whom?

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1 as medically indicated?

2 A Yes.

3 Q Would you agree that an anesthesia plan
4 developed by an anesthesiologist and discussed with
5 and accepted by the patient is a requirement of the
6 minimal patient care that should be provided by the
7 anesthesiologist to the patient?

8 A Yes.

9 Q Doctor, going to the standards that the
10 American Society of Anesthesiology puts forth, to your
11 knowledge and belief, do you feel that these standards
12 are reasonable and prudent standards?

13 A I think you asked me that earlier. And I
14 think that they are.

15 Q Okay. I was talking about there were
16 certain guidelines that I was referring to that the
17 ASA issued. Now I'm speaking of certain specific
18 standards that they've issued, okay?

19 A The thing that I think is important is
20 guidelines are guidelines. They're not exactly rules.
21 They are things that are suggestions.

22 The ASA standards are things that the

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1 Q From the physician to the patient

2 A Yes.

3 Q Do you agree that minimal patient care
4 should include appropriate pre-anesthesia evaluation
5 and examination by an anesthesiologist prior to
6 anesthesia and surgery?

7 A Yes.

8 Q Do you agree that minimal patient care
9 should include, in the event that non-physician
10 personnel are utilized in the process, that the
11 anesthesiologist must verify the information and
12 repeat and record essential key elements of the
13 evaluation?

14 A I'm not sure what they mean by repeat. But
15 if it's something that is an easily repeatable thing
16 like listening to lungs or heart or airway exam, then
17 I would agree with that.

18 But I wouldn't repeat a lab just because
19 it's essential if the one that I've got is already
20 good enough.

21 Q Would you agree that minimal patient care
22 should include preoperative studies and consultations

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1 society has decided are the way things should be done.
2 But guidelines are simply there to guide you, not to
3 tell you what to do.

4 Q Do you agree with standard number one of the
5 standards of the American Society of
6 Anesthesiologists, which states that, "An
7 anesthesiologist shall be responsible for determining
8 the medical status of the patient, developing a plan
9 of anesthesia care, and acquainting the patient or the
10 responsible adult with the proposed plan"?

11 A Yes.

12 Q Do you agree that the development of an
13 appropriate plan of anesthesia care is based upon,
14 one, reviewing the medical record, two, interviewing
15 and examining the patient to discuss the medical
16 history, previous anesthetic experiences, and drug
17 therapy, and being assessed those aspects of the
18 physical condition that might affect decisions
19 regarding perioperative risk and management? Do you
20 agree?

21 A Yes, to the extent that the patient really
22 wants to know or cares.

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1 Q Do you also agree that the development of an
2 appropriate plan of anesthesia care includes obtaining
3 and/or reviewing tests and consultations necessary to
4 the conduct of anesthesia?

5 A Yes.

6 Q Do you agree that the standard for an
7 anesthesiologist includes that the responsible
8 anesthesiologist shall verify that all of the above
9 items that we've discussed, Doctor, have properly been
10 performed and documented in the patient's record? Do
11 you agree with that, Doctor?

12 A I think that they should all be performed.
13 I'm not so sure about the documentation part of it,
14 because sometimes if the record is well documented
15 already, I don't see anything wrong with saying, "See
16 labs," or, "See H and P for more details," or
17 something like that.

18 But there ought to be some sort of
19 reference, if you found something abnormal, to where
20 you would go to get more information.

21 In other words, as an example, if there was
22 a cardiac clearance, on my preoperative sheets I just

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1 surgery, was a patient of Dr. Celerio's, correct?

2 A She became a patient of Dr. Celerio's as
3 soon as the informed consent was given. And she
4 decided to allow him to anesthetize her.

5 That's when I think you actually become
6 somebody's patient.

7 Q Would you agree that pre-anesthetic
8 evaluation and preparation means that an
9 anesthesiologist reviews the chart, interviews the
10 patient to discuss medical history, including
11 anesthetic experiences and drug therapy, and performs
12 any examinations that would provide information to the
13 anesthesiologist that might assist in decisions
14 regarding risk and management? Do you agree with
15 that?

16 A Yes.

17 Q Do you agree that the anesthesiologist has a
18 duty to record his or her impressions formed in
19 connection with the patient's presurgical
20 anesthesiology evaluation in the patient's chart?

21 A Say that again, please.

22 Q Okay We're at the preoperative

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1 write -- there is a box on there that I can check off
2 "cardiac clearance done, medical clearance finished."
3 And I write the guy's name down, so I know where I can
4 go to get that or where I can find it in the chart
5 rather than --

6 Q But you would -- right, I follow that,
7 Doctor But you would have verified the results of
8 that pre-cardiac clearance prior to in short form
9 initialing off on it, correct?

10 A I verify it one way or the other. It can be
11 either verbal or a written statement that I've gotten
12 in advance.

13 Q From the physician, correct, who did the
14 clearance?

15 A Yes. I always get it from a --well, it
16 doesn't have to be from the physician that did the
17 clearance. It can be through another physician that
18 has gotten the clearance for their own patient or
19 something like that.

20 Q In this particular case, Nancy Armstrong,
21 during the perioperative time period of this surgery,
22 meaning before the surgery as well as during the

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1 anesthesiology clearance phase of the case prior to
2 the patient's being put under, okay?

3 A They've already gone through preadmission
4 testing, and their pre-anesthetic visit?

5 Q Right Well, we're dealing with the time
6 period where the anesthesiologist is actually making
7 the pre-anesthetic or presurgical visit, okay?

8 A Okay.

9 Q Do you agree, Doctor, that the
10 anesthesiologist has the duty to record his
11 impressions in the patient's chart?

12 A I'm not sure what you mean by impressions.
13 But I think the anesthesiologist has a duty to write
14 something in the chart. And that can be something as
15 simple as "healthy for general anesthetic."

16 I don't write everything that's normal. I
17 think the word "normal" is good enough sometimes.
18 That can encompass a whole range of things.

19 Q Do you put abnormalities into the chart,
20 Doctor, and your impressions regarding the
21 significance of those abnormalities?

22 A I don't always put the impressions, because

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1 when I do my own pre -- if I was doing a preoperative
2 visit for somebody else, I may put my impressions
3 there.

4 Rut if I'm doing it for myself and for
5 minutes later I'm putting the patient to sleep, I
6 don't need to put down the impressions. I put down
7 the abnormalities, and I know in my brain how that
8 affect what I'm getting ready to do.

9 Q Doctor, have you ever seen the X-ray showing
10 Mrs. Armstrong's cardiomegaly?

11 A No.

12 Q You can read plain X-rays, correct?

13 A Well, I'm not a radiologist, but I can look
14 at an X-ray and find abnormalities on it. And I can
15 find what I'm generally looking for from an
16 anesthesiology point of view.

17 Q And if you had a case involving a patient
18 who had an X-ray showing an enlarged heart, you would
19 be able to look at that X-ray and be able to observe
20 the enlarged heart, correct?

21 A Yes.

22 Q All right And the standard of care would

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1 patients to sleep almost every day. It's extremely
2 prevalent. Almost all the long-term hypertensive
3 patients have it.

4 And that would be what you would ask,
5 whether or not you've ever had hypertension, whether
6 you still have hypertension, whether you've ever been
7 known to have any sort of cardiomyopathy or any
8 history of any cardiac disease, that kind of thing,
9 and then talk about the additional -- or at least keep
10 in mind the additional risks and things that you need
11 to be looking for on an EKG intraoperatively and how
12 to avoid trouble with an enlarged heart. It's not
13 that unusual of a problem.

14 Q And it's not that unusual to have
15 cardiomegaly that's accompanied by pleural effusions?

16 A It's much more unusual to have cardiomegaly
17 with a pleural effusion.

18 Q Because what can pleural effusions indicate
19 to you, Doctor, as a trained anesthesiologist, if it
20 comes in connection with an enlarged heart?

21 A Probably the most common cause of pleural
22 effusion is some sort of an inflammation of the

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1 require a reasonable and prudent anesthesiologist to
2 be able to look at a plain-film X-ray and see a case
3 of massive cardiomegaly, correct?

4 A I don't know if the standard of care would
5 require you to have that ability or not. I think the
6 standard of care in anesthesiology would require you
7 to know what to do with a patient that has a massive
8 cardiomegaly, not necessarily interpret raw data. Rut
9 you ought to be able to know how that affects what
10 you're getting ready to do.

11 Q What would the standard of care in this
12 particular case, assuming Dr. Celerio became aware
13 that Mrs. Armstrong had cardiomegaly -- make that
14 assumption, that he became aware of that. What would
15 the standard of care have required him to do?

16 MR. RISPO: Objection. Go ahead.

17 THE WITNESS: The standard of care would
18 have required him to inquire -- if that's all he knew
19 about her, he would need to inquire about why she may
20 have a cardiomegaly.

21 Probably 95 percent of patients with
22 cardiomegaly -- and by the way, I put cardiomegaly

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1 pleural lining either of the lung or the chest wall,
2 which is sort of the same kind of lining that goes
3 around the heart, the pericardium, the pericardial
4 lining, that is.

5 And it gives you an idea that there may be
6 some kind of inflammation somewhere in the chest that
7 causes fluid to accumulate there.

8 Q Would you as a reasonable anesthesiologist
9 look further, investigate into that situation, prior
10 to putting a patient under?

11 A It depends on the size of the pleural
12 effusion. A lot of patients actually have little
13 pleural effusions over in the far corners of their
14 chest X-rays, so to speak. And they are not really of
15 that much significance.

16 We see them a lot, especially in older
17 people. On the chest X-ray they're called blunting of
18 the costophrenic angle. And it's usually from a
19 little pleural effusion. A lot of that is just old
20 age.

21 So if they had a large pleural effusion, I
22 would investigate that further. If it's small and

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1 **inconsequential to the patient and it hadn't gotten**
 2 **any worse and they are no worse, then I may not do**
 3 **anything about it at all.**

4 Q what was the cause, in your opinion, Doctor,
 5 of the infiltrates that showed upon Mrs Armstrong's
 6 chest X-ray?

7 A I believe that the infiltrates were felt to
 8 be some sort of atelectasis, which is collapsed
 9 alveoli in the lungs.

10 Q Looking at things retrospectively from the
 11 perspective of hindsight, do you have an opinion as to
 12 what those apparent infiltrates were in actuality?

13 MR RISPO Objection to hindsight

14 THE WITNESS It's almost impossible to tell
 15 for sure what those were after the patient went
 16 through CPR and so forth It really messes up the
 17 lungs

18 But it would probably still most likely have
 19 been some sort of atelectasis She may not have taken
 20 a full deep breath at the time she had her chest X-
 21 ray Some people actually breathe in and out of
 22 atelectasis with deep breathe Their lungs collapse

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1 not a -- strike that

2 Would you agree that prior to Nancy
 3 Armstrong's surgery she exhibited various symptoms of
 4 a heart condition?

5 MR FRASURE At what point, now?

6 BY MR CONWAY

7 Q Within a week of her surgery, she was
 8 exhibiting different signs and symptoms of a heart
 9 condition

10 A She had been exhibiting different signs and
 11 symptoms that could have been consistent with heart
 12 problems for months. And she had some of the similar
 13 complaints over the week or two prior to surgery.

14 Q Doctor, it's important for an
 15 anesthesiologist to know whether or not a patient has
 16 a bad heart prior to the administration of general
 17 anesthetic, since the administration of a general
 18 anesthetic to a patient with a bad heart can cause the
 19 patient's death, correct?

20 A Yes.

21 Q Doctor, in this particular case, we know
 22 now, looking back, that Mrs Armstrong was suffering

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1 Their small airways and alveoli I mean.

2 So it may be something that she has
 3 chronically, and it was just a poor inspiratory
 4 effort, which on chest X-ray will give you the
 5 atelectasis effect.

6 And it can also add to the illusion of a
 7 cardiomegaly, because cardiomegaly is based on the
 8 size of the heart in conjunction with the rest of the
 9 chest.

10 If she didn't have a decent inspiratory
 11 effort, it could have been part of that.

12 But I would say it's probably atelectasis
 13 mainly just from not moving around very much. She
 14 probably doesn't take too many deep breaths -- or
 15 didn't then anyway.

16 BY MR. CONWAY:

17 Q Doctor, as an anesthesiologist, is it
 18 important to know whether a surgical patient has a
 19 heart condition or heart problems prior to putting a
 20 patient under general anesthetic?

21 A Yes.

22 Q Doctor, is it important to know whether or

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1 from primary amyloidosis, correct --

2 A I believe --

3 Q -- on August -- go ahead I'm sorry

4 A Yes.

5 Q Specifically on August 7, 1999, correct?

6 A Yes.

7 Q Would you agree that, had Dr Celerio not
 8 given Mrs Armstrong anesthesia on August 7th, 1999,
 9 she would not have died on August 7th, 1999? Would
 10 you agree with that?

11 A It would depend on whether or not there was
 12 another anesthesiologist at that hospital who would
 13 have put her to sleep. But --

14 Q Good answer, Doctor Okay, let me rephrase
 15 it, then

16 Doctor, I want you to -- once again, Doctor,
 17 you would agree that in retrospect Mrs Armstrong had
 18 primary amyloidosis, correct?

19 A Yes.

20 Q Isn't it true that if she would not have
 21 been given general anesthetic on August 7th, 1999, she
 22 would not have died on August 7th, 1999, correct?

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1 MR RISPO Objection to hindsight
 2 THE WITNESS I don't know whether or not
 3 she would have died on that day or not
 4 BY MR CONWAY.
 5 Q Do you think it's more likely than not she
 6 would have lived through August 7th, 1999, had she not
 7 been given general anesthetic on that date?
 8 A I think that the likelihood is that she
 9 probably would have lived through that day.
 10 Q Okay So can we agree, to a reasonable
 11 degree of medical probability, which you as an expert
 12 witness know means more likely than not -- can we
 13 agree, Doctor, that to a reasonable degree of medical
 14 probability Mrs Armstrong would not have died on
 15 August 7th, 1999, had she not been given anesthetic by
 16 Dr Celerio?
 17 MR RISPO Objection to hindsight
 18 THE WITNESS I don't know the exact answer
 19 to that But I would say that the fact that she got
 20 an anesthetic and died shortly after induction would
 21 lead me to believe that the induction of anesthesia
 22 had something to do with her death

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1 Q Okay, Doctor. If--
 2 MR. RISPO: Let's go back to the
 3 hypothetical, and let's agree that what you're asking
 4 is whether she would have died with the combination of
 5 primary amyloidosis and anesthesia at the same time.
 6 She wouldn't have died with one or the other, but she
 7 would have died with both.
 8 MR. CONWAY: Well, you ask whatever you
 9 want, Ron.
 10 BY MR. CONWAY:
 11 Q My question is -- I thought it was pretty
 12 simple, Doctor. More likely than not, isn't it a fact
 13 that, had Mrs. Armstrong not been given anesthesia on
 14 August 7th, 1999, she would not have died on that
 15 date?
 16 MR. RISPO: And it's equally likely she
 17 would not have died --
 18 MR. CONWAY: Please --
 19 MR. RISPO: -- if she didn't have primary
 20 amyloidosis. Now, the question is totally unfair.
 21 MR. CONWAY: You know, I'm putting up with a
 22 lot. Please, this is my deposition. If he can't

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1 BY MR. CONWAY:
 2 Q Well, Doctor, she wouldn't have died on that
 3 day but for being anesthetized, correct?
 4 A Well, I don't know for sure. I think it's
 5 less likely that she would have died on that day, but
 6 I can't tell you a hundred percent.
 7 Q I'm not asking you a hundred percent,
 8 Doctor. You've testified in Ohio before in medical
 9 malpractice cases, correct?
 10 A Yes.
 11 Q You are then familiar with the degree of
 12 certainty that a doctor must have in an opinion in
 13 order to be able to testify in an issue, correct?
 14 A That's right.
 15 Q All right. In Ohio you're aware, if the
 16 existence of a fact is more likely than not, all
 17 right, that means that it exists to a reasonable
 18 degree of medical probability? You would agree with
 19 that, correct?
 20 MR. RISPO: Objection.
 21 THE WITNESS: I would say yes.
 22 BY MR. CONWAY:

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1 answer the question, fine. He's going to have to
 2 answer it eventually anyway.
 3 MR. RISPO: Ask it in a fair way.
 4 BY MR. CONWAY:
 5 Q Doctor --
 6 A Yes?
 7 Q -- do you believe that Mrs. Armstrong would
 8 have died on August 7th, 1999, had she not been given
 9 anesthesia, in light of the fact that she had an
 10 underlying condition of amyloidosis?
 11 MR. RISPO: Thank you.
 12 THE WITNESS: I think that if Dr. Celerio or
 13 any reasonable anesthesiologist knew that she had
 14 amyloidosis in particular of the heart and vascular
 15 system, it is unlikely that she would have died in
 16 that operation.
 17 BY MR. CONWAY:
 18 Q Okay. But that's not my question. My
 19 question is, Doctor, in light of the fact that Mrs.
 20 Armstrong had an underlying condition of amyloidosis,
 21 isn't it a fact that if she had not been given
 22 anesthesia on August 7th, 1999, she, to a reasonable

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1 degree of medical probability, would not have died on
2 that date, correct?

3 A I think that the way I understand the
4 question is I think that she would not have died on
5 that date if she did not have amyloidosis of the heart
6 with this induction of anesthesia with what Dr.
7 Celerio knew. Did that answer your question?

8 Q No, it didn't, Doctor. But we'll move on to
9 something else, since I'm paying \$700 dollars an hour

10 Doctor, would you agree that an
11 anesthesiologist has an independent duty to clear a
12 patient for surgery?

13 A I actually think that the only person that
14 can clear a patient for surgery is the
15 anesthesiologist or anesthesia provider if there is no
16 anesthesiologist there.

17 Q So in this particular case, it would have
18 been Dr Celerio's obligation to clear the patient for
19 surgery, correct?

20 A Well, I think that the best thing I can do
21 right now is answer your question. But first I have
22 to preface it with what I think is the definition of

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1 an emergency.

2 Q Right And I believe one of the doctors,
3 possibly Dr Bartilucca, testified that this surgery
4 could have been done at a later point in time Would
5 you agree with that?

6 A I don't remember his exact words. But most
7 urgent procedures can be done at a later time.

8 Q Doctor, you're board certified in
9 anesthesiology, correct?

10 A Yes.

11 Q What's the significance of being boarded in
12 anesthesiology?

13 A The basic answer to that is, after you
14 finish your training, you can answer the questions.

15 Q Well, you obviously at some point determined
16 it was worthwhile to become board certified in
17 anesthesiology, correct, Doctor?

18 A Yes.

19 Q And what was the reason you thought it was
20 worthwhile to become board certified in
21 anesthesiology?

22 A I wanted to, first of all, know for myself

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1 clearing somebody for surgery.

2 Q Okay.

3 A Clearing somebody for surgery is actually
4 saying they are ready for surgery, and they are doing
5 about as good as they can get for this particular
6 surgery on this date with its degree of urgency. And
7 nobody can do that besides the person that's actually
8 giving the anesthetic.

9 Q And that's the anesthesiologist, correct?

10 A Right. We often talk about internal-
11 medicine people or cardiologists clearing patients.
12 But they're not really clearing them. They're just
13 telling us that they're as good as they're going to
14 get. And as far as they're concerned, they're not
15 going to get much better.

16 And knowing those risks with whatever the
17 patient has going on with them, go ahead and do your
18 anesthetic. They're not saying that the patient is in
19 perfect condition.

20 Q This was not an emergency surgery, was it,
21 Doctor?

22 A I think it was described as urgent but not

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1 that I was able to answer the questions. And that way
2 I thought that I would have done my best in training.

3 And also there was a financial incentive,
4 since I was in the service. They give you an extra
5 \$2,000 dollars a year.

6 Q Okay So obviously your employer at that
7 time, U S service, whatever branch you were in, felt
8 it worthwhile to have an employee who was board
9 certified in anesthesiology, correct?

10 A Yes. It was the U. S. Navy that I was in at
11 the time.

12 Q Doctor, are you familiar with the guidelines
13 for perioperative cardiovascular evaluation for non-
14 cardiac surgery which was issued by the American
15 College of Cardiology, the American Heart Association
16 task force?

17 A I've read up on various things like that
18 over the years as they come out. I guess you'd have
19 to ask me a specific question about it, because
20 there's new guidelines all the time from different
21 sources. And I don't remember who did what.

22 Q This was a report issued in 1996 It was a

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1 task force on the practice guidelines issued by the
2 Committee on Perioperative Cardiovascular Evaluation
3 for Non-Cardiac Surgery

4 At any point do you recall having read this
5 report?

6 A I don't recall specifically reading it, but
7 I'd be surprised if I have not read it somewhere over
8 the years.

9 Q Doctor, I presume that you read very
10 carefully the deposition summary of Dr. Celerio?

11 A Yes.

12 Q Or deposition transcript -- I'm sorry You
13 have read Dr. Celerio's deposition transcript?

14 A Yes.

15 Q Then you're aware that Dr. Celerio has
16 various criticisms against Dr. Bartilucca?

17 A I don't remember exactly what his criticisms
18 are. But I didn't get the sense that -- well, I guess
19 I can't say anything. I don't remember his
20 criticisms.

21 Q All right Doctor, were you aware that Dr.
22 Celerio is not board certified in anesthesiology?

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1 A I see criticisms.

2 Q All right. Do you think those are
3 reasonable criticisms Dr. Celerio is making of Dr.
4 Bartilucca in this case?

5 A I think they're only reasonable if Dr.
6 Bartilucca knew of any of the previous medical or
7 physical conditions that the patient had. If he did
8 not know of them, then the criticisms are
9 unreasonable.

10 If Dr. Bartilucca knew them and didn't tell
11 Dr. Celerio, then they are reasonable.

12 Q All right. What about the criticism that
13 Dr. Celerio made against Dr. Bartilucca regarding Dr.
14 Bartilucca's failure to tell Dr. Celerio of the
15 patient's brain tumor? Do you think that that's a
16 reasonable criticism?

17 A I don't think it had anything to do with
18 this case at all. So I'm not so sure that it makes
19 any difference.

20 But if Dr. Bartilucca knew of the brain
21 tumor, it should have been in his H and P. He doesn't
22 necessarily have an obligation to tell Dr. Celerio

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1 A I think I either read that or heard that
2 somewhere.

3 Q Are you aware that he is not even board
4 eligible in anesthesiology?

5 A I didn't know.

6 Q Do you have Dr. Celerio's deposition in
7 front of you, Doctor?

8 A Yes.

9 Q Starting at page 23 of his deposition and
10 going through page 24 of the deposition, does that
11 refresh your recollection as to the criticisms that
12 Dr. Celerio had of -- some of the criticisms Dr.
13 Celerio had of Dr. Bartilucca?

14 A Let me just skim it real quick.

15 Q Sure, take your time.

16 A (Perusing document.) Okay, I've read it.

17 Q All right. My reading of those pages as
18 well as other pages in Dr. Celerio's deposition -- it
19 appears to me he's putting forth -- I mean, it appears
20 that Dr. Celerio is putting forth four criticisms of
21 Dr. Bartilucca, okay? Do you see those criticisms in
22 there?

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1 about it. But if he knew about it, it should have
2 been in his history and physical exam. And Dr.
3 Celerio should have read that and seen it if it were
4 there.

5 Q Well, Dr. Celerio indicates that the reason
6 it was important to him was that he would have
7 postponed the operation had he known of that brain
8 tumor. That's what Dr. Celerio's testimony is,
9 correct?

10 A Yes. I remember reading something about
11 that.

12 Q All right. So if Dr. Celerio felt that it
13 was important enough to postpone the surgery, do you
14 agree that his criticism is reasonable, his criticism
15 of Dr. Bartilucca is reasonable?

16 MR FRASURE Objection

17 THE WITNESS I don't think that my answer
18 to the last question changes any based on that. But
19 the only reason why any reasonable anesthesiologist
20 would want to cancel a patient that has a brain tumor
21 is if that brain tumor hadn't been fully described and
22 nobody really knew what it was and how it was

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1 affecting the patient
 2 In this particular case, that wasn't the
 3 case. So it really doesn't make any difference in
 4 this case.
 5 BY MR CONWAY
 6 Q And that's, I guess, my question, because
 7 you're being hired as an expert on behalf of Dr
 8 Celerio
 9 I'm asking you whether or not you agree with
 10 Dr. Celerio's old criticisms in this case of Dr
 11 Bartilucca. I take it you do not agree with that
 12 criticism.
 13 A I, quite honestly, don't care who I'm being
 14 hired for when I do any expert cases. I simply go
 15 after the truth. And whichever direction the truth
 16 takes me, that's where I'm willing to work.
 17 In this particular case, I don't see why
 18 he's critical of Dr. Bartilucca at all, knowing in
 19 retrospect that this tumor was a benign meningioma
 20 that really has no effect on this patient's anesthetic
 21 in reality. So I don't know why he's criticizing him.
 22 Q If in the patient's chart, which was

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1 overall conduct of Dr. Celerio in my questions to you.
 2 I'm asking you about one specific action.
 3 Should a reasonable and prudent
 4 anesthesiologist read through thoroughly a patient's
 5 chart prior to putting the patient under anesthesia?
 6 A I don't know if I like the word
 7 "thoroughly." But I think that the important portions
 8 of the chart should be read. There are lots of
 9 portions of the chart that I don't read, and I know
 10 I'm not outside the standard of care.
 11 So I guess the answer would be no. If he
 12 did in fact read the important parts of the chart for
 13 what he was getting ready to do and he missed it, then
 14 he would simply have missed it.
 15 I'm not so sure that makes him outside the
 16 standard of care. But it does mean that he missed
 17 something that he should have picked up.
 18 Q Doctor, are you aware of some medical
 19 records that Dr. Bartilucca received from Dr. Boy-Doe
 20 prior to the surgery?
 21 A I know that there are records in Dr.
 22 Bartilucca's office-record section that I got. I

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1 available to Dr. Celerio pre-surgically, there was an
 2 indication that the patient had a brain tumor, should
 3 Dr. Celerio have at least been aware of that chart
 4 note indicating the presence of Mrs. Armstrong's brain
 5 tumor?
 6 A I think that if any patient has a brain
 7 tumor, the anesthesiologist should be aware of it.
 8 Q Did Dr. Celerio fall below the standard of
 9 care in not recognizing from his review of the chart
 10 pre-surgically that Mrs. Armstrong had a brain tumor?
 11 MR RISPO: Objection. How could he fall
 12 below the standard of care without knowing the facts?
 13 BY MR CONWAY.
 14 Q Can you answer that question, Doctor?
 15 A I think that the standard of care the way I
 16 understand it is what a reasonable person would do
 17 under similar circumstances.
 18 I don't think there's anything unreasonable
 19 about what he did, whether he knew about the brain
 20 tumor or not, so --
 21 Q Doctor, I'm talking -- I'm not asking about
 22 the overall -- excuse me. I'm not talking about the

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1 don't know exactly when he got those. But there is
 2 talk in the deposition of Dr. Celerio that these
 3 things may have been available prior to this operation
 4 or this attempted operation.
 5 Q The reason I asked you that, Doctor, is Dr.
 6 Celerio had a second criticism of Dr. Bartilucca, that
 7 Dr. Bartilucca had never made him aware of the fact
 8 that at one point in her medical history Nancy
 9 Armstrong had been on the drug Redox. And Dr. Celerio
 10 indicated that, had he been made aware of that by Dr.
 11 Bartilucca, he would not have gone forward with the
 12 surgery. Are you aware of that criticism?
 13 A Yes.
 14 Q Do you feel that that's a reasonable
 15 criticism of Dr. Bartilucca by Dr. Celerio?
 16 A It would have been reasonable if the patient
 17 was still on Redox. But since I think it had been two
 18 years prior, then it really doesn't make any
 19 difference at this point.
 20 Q Dr. Celerio also criticized Dr. Bartilucca
 21 for not telling him that a prior doctor had
 22 recommended that in a prior surgery of Nancy

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1 Armstrong's that she be given a cardiac consult. Do
2 you recall Dr. Celerio's criticism on that point?

3 A I don't remember it exactly, but I do
4 remember something to that effect, yes.

5 Q Do you feel that that was a reasonable
6 criticism of Dr. Bartilucca by Dr. Celerio?

7 MR. FRASURE: Objection.

8 THE WITNESS: I think that if Dr. Bartilucca
9 knew that somebody in the past had some suspicion that
10 the patient may have some sort of cardiac impairment
11 and he knew about that, he had an obligation to tell
12 Dr. Celerio.

13 So I think that that's a reasonable
14 criticism of Dr. Bartilucca.

15 BY MR. CONWAY:

16 Q Do you believe that Dr. Bartilucca would
17 have been below the standard of care for a surgeon not
18 to give that information to the anesthesiologist, Dr.
19 Celerio, if in fact he possessed that information?

20 A I think that standard-of-care questions for
21 surgeons you ought to get from them.

22 But I would find it highly inappropriate for

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1 course if not the course that Dr. Celerio felt was
2 appropriate?

3 A The appropriate thing to do under that --
4 I've been in that exact situation before more than
5 once. And the thing that I recommend and that I do is
6 I just call the primary care or the cardiologist.

7 And I either get copies of the most recent
8 notes, or I just talk to the guy. Or I find out
9 whether the surgeon has talked to the cardiologist or
10 the primary care, whoever has been responsible for the
11 patient's care.

12 And if the answers that I got in those
13 conversations were reasonable and matched what I was
14 seeing in front of me in terms of the patient and
15 whatever lab data that I had, then I would go ahead
16 with the case.

17 I wouldn't necessarily demand a cardiac
18 clearance, because again I'm the only one that's going
19 to clear the patient. And I would want to know what
20 data was available if I was under any suspicion that
21 there might have been something more to the patient's
22 history than I was getting. And if somebody knew

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1 a surgeon to possess information that may be important
2 to me and have them not give that to me in
3 anticipation of surgery.

4 Q Do you recall Dr. Celerio's testimony that,
5 had he been given these pieces of information by Dr
6 Bartilucca, that a cardiac consult would have been
7 appropriate?

8 A I think I remember something to that effect.
9 I don't remember his exact words.

10 Q Do you agree with him that, had these
11 various pieces of information been known to Dr
12 Celerio, he would have been reasonable in postponing
13 surgery and getting a cardiac consult for Mrs
14 Armstrong?

15 MR. FRASURE: Objection

16 THE WITNESS: I think that there's a couple
17 of different courses that could have been taken. That
18 would have been the more difficult one and not
19 necessarily the appropriate one. I think the
20 appropriate -- go ahead

21 BY MR. CONWAY:

22 Q What do you feel would be the appropriate

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1 about it, that's the avenue that I would take.

2 I deal with a very sick population where I
3 work right now. And I'm up against this kind of thing
4 all the time.

5 Q What kind of very sick people do you deal
6 with in that surgery center?

7 A I get a lot of ASA 3's, some ASA 4's, that
8 have simple things getting done to them. But they're
9 very, very ill. And I get a lot of cardiac patients
10 there.

11 And that's one of the reasons why they like
12 me there actually, because I have a cardiac
13 background. And I can sort through a lot of this
14 stuff and get the patients safely off to surgery and
15 wake them up so they can go home.

16 I'm in a different kind of situation there.
17 I need to know that I'm going to be able to get
18 somebody to go home that day. So I have to be very
19 good at evaluating their hearts.

20 And I don't necessarily rely on what
21 everybody else is telling me. I have to use my own
22 judgment. In other words, I do the clearing.

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1 Q Doctor, when is the last time you put a
2 patient under anesthesia for a total abdominal
3 hysterectomy?

4 A April or May of 2001. No, let me restate
5 that. It would be March or April of 2001.

6 Q Doctor, did Dr. Celerio have an obligation
7 to tell Mrs. Arnistrong about the results of the chest
8 X-ray?

9 A I think that you have an obligation to
10 discuss laboratory data with the patient to the extent
11 that they are interested. Some of them don't care,
12 and they just don't want to know. And you can't force
13 that information on them.

14 But I think it's important, if you find an
15 abnormality on the chest X-ray, to ask them if they've
16 ever had that before. Can they tell you anything more
17 about that? -- and question it further.

18 Q Doctor, you're familiar with the EKG of
19 August 5th, 1999, in this case, correct?

20 A Yes.

21 Q Do you have a copy of that in front of you?

22 A Yes. I've got to find it. Okay, I have it.

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1 your reading of the medical records and the
2 depositions that a cardiology group had over-read this
3 particular EKG?

4 A I'm not sure what you mean by over-read. Do
5 I have another copy of it, do you mean, that's read
6 again?

7 Q No, no. Are you aware that at one point Dr.
8 Bartilucca's office was in contact with a cardiology
9 group who had communicated their reading or findings
10 of this particular EKG to Dr. Bartilucca's office?

11 MR. RISPO: Objection.

12 THE WITNESS. I don't remember for sure I
13 don't think I knew that But you might be able to
14 refresh my memory

15 BY MR. CONWAY:

16 Q There is a cardiology group that read this
17 EKG, faxed a copy of it to the hospital, and then the
18 hospital faxed a copy of the EKG to Dr. Bartilucca's
19 office prior to surgery Are you aware of that
20 chronology?

21 A That rings a bell. I don't remember the
22 exact sequence, though.

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1 Q Is that an abnormal EKG?

2 A Yes.

3 Q What's abnormal about that EKG, Doctor?

4 A There is a slight area of ventricular
5 conduction delay. The wave forms aren't exactly
6 normal. There is a hint of what might be Q waves in
7 the anterior leads. And there is a left-axis
8 deviation.

9 Q All of that taken together, do those
10 findings have a bottom-line significance to you,
11 Doctor?

12 A Well, the significance would be that there
13 is something wrong with the EKG basically. And that
14 would lead me to think that there may be something
15 wrong with the electrical conduction system in the
16 heart that may be either old or new. And the only way
17 to know that for sure would be to look at old EKG's.

18 Q Now, Doctor, someone with electrical
19 disturbances in their heart, they are greater risk for
20 death when induced with general anesthesia, correct?

21 A Yes.

22 Q In this particular case, are you aware from

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1 Q Ringing that bell and looking at the top of
2 that EKG, it indicates as a summary it's abnormal.
3 And there is handwriting in there, "MI, age" -- or it
4 says, "Consider anterior myocardial infarction,"
5 correct?

6 A Right. Mine's not in handwriting, though.
7 Typed do you mean?

8 Q Yes. I'm sorry. In typed it says,
9 "Consider anterior myocardial infarction," correct?

10 A Yes.

11 Q And then it has, "Summary, abnormal,"
12 correct?

13 A Yes.

14 Q Then you'll notice under, "Consider anterior
15 myocardial infarction," written in in longhand, it
16 says, "Age undetermined," correct?

17 A I don't have that on mine. That's all mine
18 has, what you said before.

19 Q Okay. You have Dr. Bartilucca's chart with
20 you, don't you?

21 A Yes.

22 Q His record, all right. If you'll look at

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1 Bates stamp 001, I believe you'll see the copy that
2 Dr. Bartilucca has of that EKG. It should be right at
3 the beginning, Doctor.

4 MS. KOLIS: Might be under X-rays or
5 diagnostics. I'm guessing.

6 THE WITNESS: Did you say on the back of his
7 deposition or in his chart?

8 BY MR. CONWAY:

9 Q No. Well, you know what? It's also at the
10 back of his deposition as a deposition exhibit,
11 Plaintiffs Exhibit F. That's probably the fastest
12 way to go.

13 A Bartilucca you said, right?

14 Q Yes.

15 A (Perusing document.) Oh, yes, I've seen
16 that before.

17 Q Okay. And the copy that Dr. Bartilucca has,
18 based on information his office received, someone in
19 his office wrote, "Age indeterminate," under the,
20 "Consider anterior myocardial infarction."

21 Or what's your understanding of how that got
22 written in?

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1 -- and correct me if I'm wrong -- that if you were
2 confronted with an abnormal EKG, you would want to go
3 back and check prior EKG's so that you could compare
4 them to the current one. Is that what you stated,
5 Doctor?

6 A Yes. And that's actually what I did in this
7 case, too.

8 Q Doctor, does the anesthesiologist, Dr
9 Celerio in this case -- does he have the obligation to
10 go back and get or review the prior EKG's of Mrs
11 Armstrong and compare them to this EKG prior to
12 putting her under anesthesia?

13 A Well, remember I also said that sometimes a
14 verbal consultation over the phone or with somebody
15 that knows the patient is often good enough. If he
16 had access to those older records, he would have an
17 obligation to look at them if he knew about it.

18 Or if he talked to somebody that may have
19 already seen them or knows the patient, he would have
20 an obligation to do that.

21 He would have to do one or the other. And
22 he would want to make sure that the patient's cardiac

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1 A It looks like Parker or something like that.
2 Somebody read the EKG and put in a correct
3 interpretation. The computer is often correct, but
4 it's occasionally incorrect or only partly correct.
5 So they are often corrected.

6 Q So what we have here is we have someone from
7 the cardiology group, correct, reading this EKG and
8 adding to consider myocardial infarction. They put in
9 "Age undetermined," correct?

10 A Yes.

11 Q Did Dr. Celerio have the obligation to tell
12 Mrs. Armstrong the results of this August 5th, 1999,
13 EKG?

14 A If he had had -- well, any EKG he has the
15 obligation to talk to her about lab results, what's
16 abnormal, and ask her if she knows anything about
17 those abnormalities and how long they've been around.

18 And then again that would change the risk
19 status. And in terms of informed consent, you would
20 want to talk to the patient about how that changes
21 their status going into the operating room.

22 Q You had indicated earlier that if you were

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1 system was at least optimal for surgery. It was as
2 good as it's going to get, especially for elective or
3 only urgent surgery.

4 Q Is there any evidence, Doctor, that Dr
5 Celerio checked with the cardiac group who read this
6 EKG prior to putting Mrs. Armstrong under general
7 anesthesia?

8 A I don't know if he asked specifically about
9 this EKG. But he did check to see whether or not she
10 had been cleared by her primary care or whoever Dr.
11 Richardson was in relation to this patient. And he
12 was told that she was cleared for the surgery.

13 Q Doctor, we'll get back to Dr. Richardson.
14 My question was, is there any evidence whatsoever that
15 Dr. Celerio contacted the cardiology group who
16 actually read this EKG which was taken on August 5th,
17 1999?

18 A I don't know whether he did that or not.
19 But I'm not sure he actually ever saw this handwritten
20 interpretation either.

21 Q Did Dr. Bartilucca have the obligation to
22 tell Dr. Celerio about this EKG report?

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1 A I think that he had an obligation to talk to
 2 Dr. Celerio about the patient's cardiac condition if
 3 he knew of one.
 4 Q Well, you have no doubt in your mind, do
 5 you, after having read Dr. Bartilucca's deposition,
 6 that he had this particular document in his file prior
 7 to his discussing this case with Dr. Celerio, correct?
 8 MR. FRASURE: Which document are we talking
 9 about now?
 10 MR. CONWAY: I'm talking about the EKG of
 11 August 5th, 1999.
 12 THE WITNESS: Right. I think he had it in
 13 his file.
 14 BY MR. CONWAY:
 15 Q All right. Didn't he have an obligation to
 16 tell Dr. Celerio about the report that the cardiology
 17 group had issued regarding this EKG?
 18 A I don't know if he has an obligation to tell
 19 him that or not. I think that a reasonable surgeon
 20 would think that the anesthesiologist already knew
 21 about it.
 22 I don't think that my surgeons or any of

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1 Dr. Richardson.
 2 Q Doctor, have you had an opportunity to read
 3 the depositions of either of the nurses, of any of the
 4 nurses that were taken in this case?
 5 A I've listed the people that I've read the
 6 depositions of.
 7 Q None of those are the nurses, correct?
 8 A That's correct.
 9 Q And you feel comfortable issuing an opinion
 10 as to what occurred in this case without having read
 11 those depositions?
 12 A First of all, I didn't even know those
 13 depositions existed. But second of all, they wouldn't
 14 change my mind about what was the cause of death with
 15 this patient whatsoever.
 16 Q I'm not asking you whether it would have
 17 changed your mind about the cause of death, Doctor
 18 Could they have possibly changed your mind regarding
 19 whether or not any of the defendant doctors deviated
 20 from the standard of care?
 21 A I don't know the answer to that. I think
 22 that the likelihood that their depositions would have

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1 them that I've worked with over the last 15 years
 2 hardly ever tell me anything about labs unless I come
 3 to them with questions. They just assume that I'm
 4 doing my best job for the patient.
 5 Q So Dr. Bartilucca would have assumed that
 6 Dr. Celerio already possessed this EKG, correct?
 7 A I'm saying that that's a possibility. The
 8 other thing is, if he knew of some knowledge that Dr.
 9 Celerio did not know about with this EKG, in that case
 10 he would have had an obligation.
 11 If he knew that this EKG was different than
 12 what Dr. Celerio may have seen preoperatively, then he
 13 would have an obligation to say, "Hey, that was
 14 reread," or, "I've got a different interpretation."
 15 Q How would he know what Dr. Celerio has seen
 16 unless he talks to him about what he's seen, though,
 17 Doctor?
 18 A Because Dr. Celerio came up to him and asked
 19 him whether or not the patient had been cleared. And
 20 that would have opened the door and allowed Dr.
 21 Bartilucca to say something about the EKG if it in
 22 fact had been determined to be of any importance by

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1 anything to do with the standard of care of an
 2 anesthesiologist would be very remote. So I doubt
 3 that it would have had any influence over me at all.
 4 But I would find them interesting reading.
 5 Q Doctor, did you have an opportunity to read
 6 Dr. Richardson's deposition?
 7 A Yes.
 8 Q Would you agree that Dr. Richardson
 9 testified under oath that he did not surgically clear
 10 Mrs. Armstrong for the August 7th, 1999, surgery?
 11 A I agree that that's what he said in his
 12 deposition.
 13 Q Do you believe him to be credible when he
 14 testifies to that?
 15 A I don't know whether he's credible or not.
 16 I find it surprising that he says he didn't, when two
 17 other physicians say that he did. And --
 18 Q What --
 19 A Let me finish. And I also find it
 20 surprising that he actually discussed the medical
 21 treatment of the patient intraoperatively and assumed
 22 that that had nothing to do with him.

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1 If he discussed the intraoperative
2 management of a patient without having cleared the
3 patient, I think that he would have put a stop to it
4 had he had the opportunity, if he wasn't clearing the
5 patient.

6 So I'm not so sure how credible his
7 witnessing was on this.

8 Q Doctor, Dr. Celerio has no firsthand
9 knowledge whatsoever that Dr. Richardson supposedly
10 cleared Mrs. Armstrong for surgery, correct?

11 A He didn't have any communication directly
12 with Dr. Richardson, that's correct. But he --

13 Q He's relying up on Dr. Bartilucca's
14 representations, correct?

15 A Yes.

16 Q If Dr. Bartilucca is wrong about whether or
17 not Dr. Richardson cleared Nancy Armstrong for
18 surgery, it would be Dr. Bartilucca who would be below
19 the standard of care, correct?

20 MR. FRASURE: Objection to the term "wrong."

21 THE WITNESS: I can't tell you anything
22 about the surgeon's standard of care. But I can't

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1 actually pretty healthy compared to a lot of things
2 that I have to anesthetize.

3 And by the way, the EKG that Dr. Celerio had
4 really isn't that different than the one that was done
5 four or five months earlier. It still showed those
6 anterior Q waves. So it's basically an old MI. It
7 has significance but only that you know that it's
8 there and you watch out for it.

9 So there was nothing in Dr. Richardson's
10 extensive cardiac evaluation that would have stopped
11 me from taking her to the OR. I would have been more
12 careful.

13 Q So my question of you is that you don't have
14 any criticism of Dr. Richardson in this particular
15 case, correct?

16 A The only criticism I have would be in his
17 deposition where he seems to be denying having any
18 conversation of having to do with talking about how
19 the patient is ready for the operation, when he's
20 making major medication changes in terms of her
21 anticoagulation.

22 Nobody would ever do that unless they

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1 find any reason in Dr. Richardson's record why the
2 patient wouldn't have been cleared anyway. So I'm not
3 so sure it really makes any difference.

4 BY MR. CONWAY:

5 Q So you think that if you were Dr. Richardson
6 and had received a call from Dr. Bartilucca on August
7 5th, 1999, you would have cleared Nancy Annstrong for
8 surgery?

9 A Yes, knowing that she had just made it
10 through a fem-fem bypass graft with no trouble, and
11 she had an extensive cardiac evaluation prior to that
12 which really wasn't all that bad compared to a lot of
13 patients that we take to the operating room.

14 I would have taken her to the operating room
15 just knowing those things were wrong with her. That
16 wouldn't have stopped me or a lot of reasonable
17 anesthesiologists.

18 Q So you don't feel that Dr. Richardson was
19 below the standard of care in this case, then,
20 correct?

21 A I think that if he had cleared the patient,
22 it wouldn't have surprised me. This patient was

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1 thought the patient was ready for surgery. It would
2 actually be sort of foolish. So he knew she was going
3 to the operating room. He thought she was good enough
4 to go to the operating room. He actually thought she
5 was good enough to reverse her anticoagulation, albeit
6 for a short period of time before she got on heparin.

7 And so I don't really believe that he didn't
8 know she was going to the operating room and that he
9 thought she was as good as she was going to get.

10 And actually I think she was as good as she
11 was going to get anyway. And she really wasn't really
12 that bad on her cardiac evaluation. That's why they
13 did the bypass surgery. Nobody --

14 Q Doctor--

15 A Nobody would take the patient to --

16 Q -- wouldn't it --

17 A --bypass surgery if they were really that
18 sick. It's a lot more stressful than this
19 hysterectomy ever would have been.

20 Q Doctor, when Dr. Richardson received that
21 phone call from Dr. Bartilucca on August 5th, 1999,
22 wouldn't he have been reasonable to think that Dr.

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1 Bartilucca had already taken appropriate steps to have
 2 Mrs Armstrong cleared for surgery, since the surgery
 3 was going to be on August 7th, 1999?
 4 MR FRASURE Objection
 5 THE WITNESS I don't know what he would
 6 have thought, to be honest with you But it wouldn't
 7 surprise me that he was actually involved in the
 8 thought process on the days leading up to the surgery,
 9 and he just doesn't remember it very accurately,
 10 because not very much gets past the primary cares
 11 nowadays
 12 So I don't know what to think about that
 13 BY MR. CONWAY
 14 Q Doctor, based on your extensive reading of
 15 the depositions and medical records, on what date did
 16 Dr Richardson do the medical examinations and testing
 17 to clear her for surgery?
 18 A Like I said earlier, he doesn't do the
 19 actual clearing. The anesthesiologist does. But
 20 oftentimes if you are familiar enough with the
 21 patient, a simple conversation over the phone about
 22 that patient, if the surgeon and the primary care and

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1 they saw Dr. Richardson in connection with this
 2 surgery on August 7th, 1999, correct?
 3 MR FRASURE Objection The testimony in
 4 deposition is contrary But go ahead
 5 MR CONWAY Okay, Mark, whatever That's
 6 your interpretation
 7 BY MR. CONWAY
 8 Q Do you have any evidence, Doctor?
 9 A There is no evidence in the medical records
 10 other than what is in those depositions.
 11 Q Would you agree that the last office visit
 12 Dr Richardson had with Nancy Armstrong was on July
 13 6th, 1999?
 14 A That's the last one that I have in the
 15 records that were sent to me.
 16 Q Would you agree that Dr Bartilucca
 17 recommended surgery to Nancy Armstrong on July 22nd,
 18 1999?
 19 A I don't remember the exact date, but that
 20 sounds about right. I know that it was later on in
 21 July.
 22 Q Would you agree that Dr Bartilucca first

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1 the cardiologist are all on the same page, is good
 2 enough.
 3 I put patients to sleep that need to be sort
 4 of, quote unquote, cleared for surgery that are seen
 5 frequently enough by the cardiologist that calling
 6 them up and looking at old data and having them look
 7 at it is good enough for me, especially if I can
 8 coordinate that with what I've got in the record and
 9 what the patient is telling me.
 10 Q Doctor, you didn't answer my question And,
 11 quite frankly, I've got to kind of pinpoint you down,
 12 'cause it's getting late
 13 Do you have any evidence as to a particular
 14 date where Dr Richardson did any testing, evaluation,
 15 or examinations in connection with medically doing any
 16 type of presurgical clearance?
 17 A The only decent data on that would have been
 18 prior to the bypass surgery that she'd had a couple of
 19 months earlier. But he didn't specifically see her
 20 for this surgery, at least not in his notes.
 21 Q Right And we have no evidence by anybody,
 22 including him, Dr Bartilucca, or the Armstrongs that

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1 contacted Dr Richardson about this proposed surgery
 2 on August 5th, 1999?
 3 A I think that that's the date that I flagged
 4 in here.
 5 Q Now, Doctor, keeping all those dates in mind
 6 and keeping in mind the assertions by both Dr Celerio
 7 as well as Dr Bartilucca that they were relying upon
 8 Dr Richardson to clear this patient for surgery,
 9 didn't either or both of those doctors have the
 10 obligation to bring to Dr Richardson's attention the
 11 August 5th, 1999, abnormal EKG indicating a myocardial
 12 infarction, age indeterminate, and the chest X-ray
 13 report of August 5th, 1999?
 14 A If they had brought the EKG to his
 15 attention, he would have told them if there was an
 16 April EKG that was basically identical and that that
 17 shows no new significance.
 18 The chest X-ray -- it would be very unusual
 19 for me to call -- or I don't think the standard of
 20 care would require an anesthesiologist to call the
 21 primary care to tell him that there is atelectasis on
 22 the chest X-ray. I think that would be a little bit

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1 of a stretch.

2 The anesthesiologist would have to determine
3 in his own mind whether or not he thought that that
4 was of any significance in terms of being able to
5 safely execute the anesthesia.

6 Q But, Doctor, if both Dr. Celerio and Dr.
7 Bartilucca are saying that it's Dr. Richardson's
8 responsibility in this case to clear the patient for
9 surgery, to be fair to Dr. Richardson, don't they have
10 the obligation to update him as to new medical
11 information that's come in and let Dr. Richardson
12 handle the analysis of that information?

13 A Again, no is the answer to that, because the
14 anesthesiologist would be the one that would determine
15 whether or not that information had any significance
16 in terms of putting the patient to sleep.

17 If in fact he thought that it did and the
18 patient should be canceled, at that point he would
19 call the primary care or whoever is responsible for
20 the patient outside of this arena and tell them, "I'm
21 canceling the surgery because they've got an
22 infiltrate," or atelectasis or whatever your complaint

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1 earlier.

2 I could easily interpret that EKG four
3 months earlier as an old anterior MI. Actually I
4 don't really think that that's what it was. It didn't
5 show up on autopsy.

6 It's just an electrical rhythm disturbance,
7 probably consistent with amyloid heart disease.
8 That's why she has that arrhythmia, because she does
9 not have a myocardial infarction on her autopsy.

10 They did three-millimeter sections all the
11 way through the myocardium. There isn't an MI there.
12 So in retrospect, from my point of view, it really
13 doesn't make a bit of difference.

14 BY MR. CONWAY:

15 Q Do you think that was a thoroughly complete
16 autopsy, Doctor? Are you happy with that autopsy?

17 A I think three-millimeter sections through
18 the heart is what I usually see on autopsies.
19 Sometimes they make them even bigger. So it looked
20 like that part of it was pretty thorough.

21 Also, the coronary arteries are completely
22 patent. You know, it's hard to have a myocardial

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1 is. And maybe you'd want to take another look at
2 that.

3 If you determine it's not an issue for your
4 anesthetic or your case, then you don't have any
5 obligation to call the primary care about it at all.

6 You might put it in your H and P that you
7 send them afterwards with your operative report. But
8 you don't get permission from them to do the case.
9 You determine that on your own.

10 Q What happens, Doctor, if Dr. Celerio and Dr.
11 Bartilucca had made Dr. Richardson aware of these two
12 new findings, the EKG of August 5th and the chest X-
13 ray of August 5th?

14 Would Dr. Richardson have been within his
15 rights to recommend that the surgery be postponed?

16 MR. FRASURE: Objection.

17 THE WITNESS: I think that it would have
18 been within his right to recommend anything he wanted
19 But the first thing he would have done is refer to his
20 medical records that he had right there in front of
21 him that show an old history of an enlarged heart and
22 EKG changes that were exactly the same four months

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1 infarction without having some sort of coronary artery
2 occlusion. And also that rhythm disturbance was in
3 existence four or five months previous. You can see
4 it in her chart. There is no change.

5 And that's what Dr. Richardson would have
6 said. "She's had all of this for a long time. Her
7 complaints haven't changed. It's up to you guys."
8 That's exactly what would have come out of his mouth
9 probably, that, "She's okay as far as I'm concerned."

10 Q Doctor, the bottom line is the autopsy is
11 totally inaccurate regarding the cause of death,
12 correct?

13 A It misses the amyloidosis, but it doesn't
14 really miss the cause of death, which was an
15 arrhythmia. She did not die of a myocardial
16 infarction. She died of an arrhythmia and a cardiac
17 arrest, which is a different thing.

18 You don't have to have dead heart tissue to
19 have a cardiac arrest, but you do to have a myocardial
20 infarction, which is why that patient had Q waves on
21 the anterior leads. At least that's what everybody
22 thought.

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1 Q Doctor, would you agree that prior to
2 surgery Dr Celerio was faced with a patient who had
3 an abnormal EKG, a chest X-ray with positive findings,
4 a history of difficult breathing with exertion, and
5 leg swelling?
6 A I think that all of those things were
7 somewhere in her record over time and that she had had
8 those problems.
9 Q Do you agree that the preoperative chest
10 examination revealed decreased breath sounds in the
11 right base?
12 A Yes.
13 Q Do you agree that Dr Celerio had available
14 to him, if he chose to read or look at them, the
15 August 6th, 1999, chest X-ray report, final, the
16 August 5th, 1999, chest X-ray, and the prior EKG's of
17 Nancy Armstrong through the Elyria Memorial Hospital
18 record system?
19 MR RISPO objection Go ahead
20 THE WITNESS I don't know how their record
21 system works I think that if -- I don't know whether
22 the hard copy of the X-ray film was available to him

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1 confusion, the Elyria Memorial Hospital system had
2 available through its records department prior EKG's
3 Would you agree with that from Dr Celerio's
4 testimony?
5 A I don't know. It wouldn't surprise me if
6 they do. But I'm not so sure that an old EKG that
7 shows an old MI and new atelectasis on a chest X-ray
8 are absolute contraindications to anesthesia anyway.
9 So I'm not so sure why these things seem to
10 be so important to you.
11 Q Doctor, the chest X-ray report itself was
12 available as of August 6th, 1999, wasn't it, Doctor?
13 A I don't remember the exact date. I'll take
14 your word for it.
15 MR. RISPO: Objection to the statement that
16 it was available The evidence is it was not in the
17 chart.
18 THE WITNESS. I think that the standard of
19 care would support reading a wet reading for your pre-
20 anesthetic assessment
21 BY MR CONWAY
22 Q Doctor, are you in charge of the pre-

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1 or not
2 I don't think it's the standard of care to
3 go look at it I guess he could have if he had wanted
4 to He would have been one in a million
5 anesthesiologists that would have bothered They
6 would have relied on the report that they got
7 He did have an opportunity to wait for the
8 final reading But to be honest with you, 99.999
9 percent of the time it doesn't really change And if
10 it does, it's something minor The big things usually
11 jump out at them on a wet reading
12 And by the way, the reason why they call it
13 a wet reading, which nobody seems to know in this
14 case, is because the X-ray film used to actually be
15 wet when it came out of the machine. And they hung it
16 up and looked at it while it was still wet. So that's
17 why it got the nickname
18 BY MR CONWAY
19 Q Well, Doctor, actually I did know that But
20 I haven't had my deposition given yet, so you didn't
21 find out my state of knowledge
22 And by the way, just in case there was

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1 anesthetic work-ups at the surgery center where you
2 works
3 A Yes.
4 Q Are you familiar with the different forms
5 that you use as the anesthesiologist in charge of the
6 pre-anesthetic work-ups at your surgery center?
7 A Yes.
8 Q And if you were presented with some medical
9 review or some forms to look at, you would know
10 whether or not you had everything that customarily was
11 in the file in front of you, correct, patient history,
12 tests, examinations, results that you had to look at
13 before putting the patient under?
14 A Yes. I know --
15 Q You would know --
16 A I know where to find those things, yes.
17 Q All right And you would know if you were
18 missing something, correct?
19 A Even at a glance.
20 Q Doctor, how many beds at this surgery
21 center?
22 A I don't know. We don't keep people

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1 overnight, so we don't really count it that way. But
2 there are four operating rooms.

3 Q So how many beds?

4 A I don't know. We don't really count it that
5 way. There are four operating rooms, so I guess
6 there's — but there's about 20 beds, 'cause we roll
7 them all over the place.

8 We do about 1200 general anesthetics a year
9 there. Maybe that helps you.

10 Q You state in one of your paragraphs on page
11 2 that, "This patient died from a sudden,
12 unpredictable, and unavoidable cardiac collapse,"
13 correct?

14 A Let me look at my exact words. What page
15 are you on?

16 Q The second page of your two-page report,
17 paragraph three.

18 A (Perusing document.) Yes.

19 Q The caidiac collapse would have been avoided
20 on August 7th, 1999, had not Mrs. Armstrong been given
21 anesthesia, correct?

22 A If she had not been given anesthesia, it

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1 Q Have you ever administered anesthesia to an
2 amyloid heart patient?

3 A I don't know whether I have or not. To be
4 honest with you, I don't think I would have remembered
5 that. But it wouldn't surprise me that I have over
6 the years.

7 Q Have you ever had a patient die under
8 anesthesia that you have administered to them?

9 A I've had patients die in the operating room
10 but not from anesthesia causes. I did a lot of trauma
11 anesthesia, and those patients died. But it wasn't
12 from anything I ever did.

13 Q Have you ever been sued for malpractice, or
14 has any hospital in which you were a care provider for
15 a patient beei sued or a group which you've beei a
16 member of beei sued for any patients you've been
17 involved in the caie and treatment of?

18 A No.

19 MR CONWAY If I could have one minute,
20 Doctor --

21 (Off the iecord)

22 BY MR CONWAY

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1 would be more likely than not that she would not have
2 had a cardiac collapse, that's right.

3 Q All right Now, you indicate there is no
4 cure for amyloidosis

5 A That's right.

6 Q How do you know that without doing a
7 literature search, Doctor?

8 A I know that from general medical knowledge.
9 There has never been a cure, and I have no knowledge
10 of any new cures that have come along.

11 Q And other than putting Mr Rispo to work
12 doing your medical literature search, you have done no
13 medical literature search yourself Is that correct?

14 A I don't think I put him to work doing any
15 medical literature search for me at all. Like I said
16 earlier, the concepts in terms of the anesthesia in
17 this thing are very basic.

18 And I didn't need to do a medical search. I
19 just wanted to see if anybody else was looking at
20 articles. But --

21 Q Have you ever --

22 A But --

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1 Q Doctor, you're not critical of any of the
2 nursing care and treatment in this case, are you?

3 A None that I know of. I guess if I ever saw
4 those depositions, I might become critical of
5 something. But I don't have anything to criticize
6 right now.

7 Q Do you have anything to criticize based upon
8 your review of the medical records? Do you have any
9 criticism of the nurses based upon your review of the
10 medical records?

11 A No.

12 Q And you're aware that neither Dr. Bartilucca
13 nor Dr. Celerio criticized any of the nurses. You're
14 aware of that, correct?

15 A Yes.

16 Q The answer would be correct, then, correct?

17 A That's correct.

18 Q Are you critical of Dr. Bartilucca for
19 anything in this particular case?

20 MR. FRASURE: Note my objection. Standard
21 of care --

22 MR. CONWAY: No.

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1 BY MR. CONWAY:

2 Q Do you have any criticisms, Doctor, of Dr.
3 Bartilucca's involvement in this case?

4 A Nothing that I know of. But, like I said
5 earlier, if he was aware of something that nobody else
6 was and he chose to keep that to himself, I would be
7 critical of that. But I have no proof of that, so I
8 really don't have any criticisms of him.

9 Q And you don't have any criticism of -- or
10 I'll put it this way. You do not believe that Dr.
11 Richardson was below the standard of care, correct?

12 MR. RISPO: Objection.

13 THE WITNESS: No. I don't think that he
14 really was.

15 BY MR. CONWAY:

16 Q All right. Doctor, you've issued a report,
17 July 10th, 2001, directed to Mr. Rispo. Are these
18 still your opinions that you hold in this case?

19 A Well, let me just read it to make sure real
20 quick. (Perusing document.) I have additional
21 opinions that I guess I talked about during this
22 deposition that aren't --

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1 was actually very reasonable, and it wasn't an
2 overdose. It was titrated on with 150 milligrams of
3 Propofol and then either 50 of Lidocaine or Xylocaine,
4 like it says there, or an additional dose of Propofol,
5 which means he titrated it on either way.

6 So he didn't see the response that he would
7 normally want to see. And then she had a profound
8 vascular and cardiac collapse because of the
9 amyloidosis within her vascular system and her heart.

10 It's just not able to contract like a normal
11 system would, especially in the face of 50 milligrams
12 of ephedrine. That will bring back almost anybody
13 unless their vascular system does not have the ability
14 to contract.

15 And since your vascular system can't
16 contract when it's full of amyloid, the cardiac
17 filling during diastole, which relies on that
18 contractility of the arterial side of the system to
19 squeeze blood back against that closed aortic valve,
20 she was not able to do that. And that's why she
21 basically just spiraled down.

22 Even if she had had a massive cardiomyopathy

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1 Q What are those additional opinions, Doctor?

2 A That the evaluations that had been done
3 previously by Dr. Richardson and referral doctors that
4 were in his chart showed that the patient would have
5 been okay for surgery if there was no change in her
6 symptom complex in between those, that she had
7 undergone a successful stressful bypass surgery of her
8 lower extremities, and her EKG really wasn't all that
9 different than it was months before, so that it just
10 strengthens my opinion that there was really no
11 deviation in the standard of care by Celerio.

12 And had he had a full, formal written, quote
13 unquote, clearance by Dr. Richardson, she still would
14 have been cleared for surgery. And she probably still
15 would not have revealed herself to have been an
16 amyloidosis patient and that the likelihood of the
17 outcome would have been somewhat the same, not knowing
18 that she had amyloidosis.

19 I can tell you why she died, if you're
20 interested.

21 Q Sure, shoot

22 A The induction of anesthesia on this patient

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1 that was not amyloid and ongoing ischemia, she still
2 would have responded to that 50 milligrams of
3 ephedrine. But somebody with amyloid heart disease is
4 not going to respond.

5 So at least the initial part of this
6 resuscitation was perfectly appropriate under this
7 circumstance on what looks like a fairly routine and
8 low-dose or at least average dose of Propofol for a
9 patient in this similar situation.

10 I don't see anything wrong with this
11 induction at all, even if I had known everything that
12 was in her cardiac history except for the amyloidosis.

13 So that's why she died. She had an
14 inability to respond to resuscitative agents because
15 of her amyloid vascular system and heart. She had no
16 chance of living once she collapsed, because she
17 couldn't respond. It's as simple as that. She just
18 didn't have a chance.

19 Q So did you even evaluate the resuscitative
20 efforts by Dr. Celerio?

21 A Yes.

22 Q Are you telling me you don't have any

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1 problems whatsoever with his involvement in the
2 resuscitationii?

3 A I think that the resuscitation that he
4 started was a perfectly appropriate resuscitation and
5 that I guess he turned over the resuscitation to
6 somebody else that came into the room that he felt was
7 a better person to run the code.

8 There is nothing wrong with turning over a
9 code to somebody else that you think might do a better
10 job than you. There are people out there like that.
11 I'm not one of them, but there's nothing wrong with
12 that.

13 And knowing what drugs they did give and the
14 efforts that they did try and knowing what was wrong
15 with her that nobody knew about, it really wouldn't
16 have made any difference anyway.

17 Q At the time that this other doctor came in
18 to take over handling the code from Dr. Celerio, that
19 doctor had none of the background information
20 regarding the patient that Dr. Celerio had, correct?

21 A Not on entering the room, he wouldn't. But
22 I'm sure Dr. Celerio immediately revealed everything

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1 not looked at those records as of today's date?

2 MR. FRASURE: Which records, now?

3 MR. CONWAY: The ones you've just --

4 THE WITNESS: I don't think anybody has
5 those records, as far as I know.

6 BY MR. CONWAY:

7 Q When did you first ask to review those
8 records, Doctor?

9 A Sometime about in the last week or so.

10 MR. FRASURE: He's talking about the
11 admission for the fem bypass.

12 MR. CONWAY: I'm aware of what he's talking
13 about.

14 MR. RISPO: I don't have them.

15 BY MR. CONWAY:

16 Q Doctor, I see that the last paragraph on
17 page 2 indicates that, "If more documents become
18 available, I will be happy to read them and reserve
19 the right to alter my opinions accordingly."

20 A Yes.

21 Q Correct?

22 A That's right. And I'll stick by that even

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1 that he knew up to that point. Otherwise, the guy
2 wouldn't want to take over the code. He'd be starting
3 from zero for no good reason.

4 So unless there was an inability to
5 communicate at all, Dr. Celerio would have told him
6 everything he knew up to that point.

7 Q Doctor, is there anything other than what we
8 have specifically spoken about this evening as well as
9 what's in your report of July 10th, 2001 -- are there
10 any additional opinions you have?

11 A No. The only other thing that I would like
12 to mention is that I have asked for the medical
13 records of the April admission for the bypass surgery,
14 because that will give me even more information about
15 her.

16 And after I review that, I may have
17 something additional. I don't think so, since I've
18 got everything from before and after that. But it
19 would be nice to see that hospital admission record,
20 in particular the evaluations that went on from the
21 anesthesia point of view.

22 Q Doctor, did I hear you correctly? You have

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1 to this day.

2 Q Oh, I'm sure you do, Doctor I've read your
3 other depositions

4 But my question regarding this final
5 sentence is that you sent this letter to Mr. Rispo on
6 July 10th, 2001, correct?

7 A Yes.

8 Q And after sending Mr. Rispo this letter on
9 July 10th, 2001, at no time after that did you receive
10 the deposition transcripts of any of the nurses,
11 correct?

12 A That's right.

13 Q You didn't receive the medical records of
14 the April hospitalization surgery, correct?

15 A Correct.

16 Q I don't have anything further, Doctor Oh,
17 I do

18 Do you have any criticisms of any other
19 physician in this case or any physician in this case?

20 A I don't. I have a comment about one of the
21 physicians in this case. I'm not sure it's a
22 criticism, because I'm not sure what their standard

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1 would be.

2 But I think if the patient died of an
3 amyloid heart issue, I'm surprised that it wasn't on
4 the original autopsy. But I don't know that they
5 usually assay for that or stain for it.

6 So that would be my only comment. I don't
7 know what their standard is, though. So I really
8 can't say anything beyond that.

9 Q Other than that comment regarding the
10 autopsy, you don't have a criticism of any doctor
11 Is that your testimony, Doctor?

12 A I don't have any criticisms other than the
13 things that I talked about earlier, no.

14 MR CONWAY I don't have anything further,
15 Doctor

16 EXAMINATION BY COUNSEL FOR DEFENDANT,
17 PAUL BARTILUCCA, M D

18 BY MR FRASURE

19 Q Real briefly, Doctor, five minutes -- Mark
20 Frasure on behalf of the gynecologist-- would you
21 expand briefly on why the femoral bypass surgery that
22 this patient had in April would be more stressful than

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1 Q Is that important to you in your opinions?

2 A Yes.

3 Q You were also asked about getting a cardiac
4 work-up or something to that effect. Are you aware
5 that this patient had a 2-D echo in June of 1998 that
6 was normal? Did you see that in the Dr. Richardson
7 records?

8 A I remember seeing lots of tests that weren't
9 really all that bad. Let me look at that one to get
10 the exact wording. You said what month was that?

11 Q June of '98, 2-D echo. I think that would
12 be in the records of the West Shore Primary Care
13 office records, which includes Dr. Richardson.

14 A (Perusing documents.) I remember seeing two
15 echoes, and one was slightly abnormal. I'm just
16 looking through my records right now, since -- I don't
17 know if you can see me, but I can't see you.

18 Q Oh, I'm sorry.

19 MR. CONWAY: Mark, would you like to come
20 down here?

21 MR. FRASURE: Sure. I've been waiting for
22 you to ask.

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1 the surgery that was to be done here in August?

2 A Because it's a well-known fact that vascular
3 and in particular bypass surgery is more stressful on
4 the heart and the entire system than an abdominal
5 hysterectomy.

6 Q Is it important to your opinions in this
7 case that she had this femoral bypass surgery only
8 about three months earlier and came through --

9 MS. KOLIS: (Conferring with Mr. Conway.)
10 We submitted all those records to --

11 THE WITNESS: I'm sorry. I'm getting a lot
12 of voices at once.

13 MS. KOLIS: Oh, we're sorry. We were just
14 talking about something. Accept our apologies.

15 BY MR. FRASURE:

16 Q Is it important to your opinions in this
17 case that Mrs. Armstrong had had the femoral bypass
18 surgery about three months earlier and come through
19 okay?

20 A I think it was three or four months earlier,
21 and she had done okay as far as the records that I got
22 pointed out.

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1 MR. RISPO: I don't think he's seen those
2 records.

3 THE WITNESS: I don't think I have that.

4 MR. FRASURE: Okay.

5 THE WITNESS: But I had a perfusion scan,
6 which is similar.

7 BY MR. FRASURE:

8 Q What was the date of that? Do you recall?

9 A I just put it away. (Perusing document.)
10 It was in April of '99.

11 Q A stress test --

12 A Yes.

13 Q -- with thallium?

14 A Yes.

15 Q Is that part of a cardiology work-up?

16 A It looks like it. These only get done by
17 cardiologists anyway.

18 Q Did you see Dr. Richardson's record of July
19 of '99, a month before she passed away, office visit?

20 A I remember it, yes. Do you want me to look
21 at it?

22 Q Yes, sir, please.

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1 A July 6th?

2 Q I believe that's right

3 A (Perusing document.) Okay, I'm looking at

4 it.

5 Q Where she reports that her chest pain is

6 worse, she gets out of breath when she walks up steps

7 -- and then about halfway down, he says, "These pains

8 have been the same character and quality the last

9 three years. Patient admits this is nothing new." Is

10 that significant, in your opinion?

11 A Yes.

12 Q Why?

13 A Because it shows that the patient actually

14 hasn't gotten any worse and may be at sort of a stable

15 point in her physical status. And it gives me an idea

16 of what she's able to tolerate.

17 Q And what does Dr Richardson say his

18 suspicion is of her having an MI or a PE, under

19 assessment, plan?

20 A He says, "Whereas, she is at risk for MI and

21 PE secondary to" -- that's what that "to dot" means --

22 "secondary to protein-C deficiency, my suspicion is

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1 for one second, so this is clear -- obviously I'm

2 making a request for the correspondence that went

3 between you and Mr Rispo If you could get that

4 together and forward it on to him, I'd appreciate it,

5 okay?

6 THE WITNESS Okay

7 MR CONWAY And if you would fax everything

8 to Mr Rispo, he can get it to us, okay?

9 THE WITNESS Okay

10 MR RISPO Let me make this offer I have

11 copies, obviously, of everything I've sent out to him

12 Do you want me to just give you my copies?

13 MR CONWAY Well, I'd like to see his,

14 because a lot of times -- I just want to be clear that

15 -- I mean, sometimes people write notes on it,

16 whatever

17 So I'd like to have all your copies of the

18 correspondence, okay, Doctor?

19 THE WITNESS Okay

20 MR CONWAY Thanks

21 (Signature not waived)

22 (Whereupon, the taking of the deposition was

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1 low; and I think her anxiety is contributing greatly

2 to her symptoms. Follow-up MRI of the brain next

3 Friday -- I, "something, "to call me back if dyspnea."

4 "I asked her," I guess that says.

5 Q All right You're licensed to practice in

6 Maryland, are you?

7 A Yes.

8 Q And what percentage of your professional

9 time do you devote to the active clinical practice and

10 teaching of medicine?

11 A Well, right now I'm not teaching medicine at

12 all. But a hundred percent of my work time is spent

13 in the clinical practice of anesthesia.

14 MR FRASURE Okay, thank you, Doctor

15 That's all I have

16 MR CONWAY We have nothing further Thank

17 you, Doctor You have the right to review and sign

18 the deposition If you want to take advantage of

19 that, it's up to you

20 THE WITNESS I'd like to

21 (Discussion off the record)

22 MR CONWAY If we can go on the record just

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1 concluded at approximately 9:22 p.m.)

COMPOFELICE REPORTING SERVICES (301) 596-2019

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State of Ohio)
County of Lorain)

IN THE COURT OF COMMON PLEAS

James J. Armstrong, Executor of)
the Estate of Nancy Armstrong,)

Plaintiff,

) Case No. CV126180

vs

EMH Regional Healthcare System,)
d/b/a Amherst Hospital, et al,)

Defendants.)

Annapolis, Maryland

Tuesday, May 21, 2002

ACKNOWLEDGMENT OF DEPONENT

I, David Charles Brandon, M.D., hereby acknowledge that

I have read and examined pages 4 through 125, inclusive, of

the transcript of my deposition and that:

(Check appropriate box)

☐ the same is a true, correct, and complete
transcription of the answers given by me to
the questions therein recorded

☐ except for the changes noted in the attached
Errata Sheet, the same is a true, correct, and
complete transcription of the answers given by
me to the questions therein recorded

Date

Signature

COMPELICE REPORTING SERVICES (301) 596-2019

CERTIFICATE OF NOTARY PUBLIC

I, Suzanne Giles, the officer before whom the foregoing deposition was taken, do hereby certify that the witness whose testimony appears in the foregoing deposition was duly sworn by me; that the testimony of said witness was taken stenographically by me and thereafter reduced to typewriting by me or under my direction; that said deposition is a true record of the testimony given by said witness; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken; and, further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of the action.

Suzanne Giles

Notary Public in and for the
State of Maryland,
County of Anne Arundel

My Commission Expires:
November 1, 2004.

COMPELICE REPORTING SERVICES (301) 596-2019

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Sudden death in a patient with amyloidosis of the cardiac conduction system

D C ALLEN, C C DOHERTY

From the Histopathology Laboratory and Department of Nephrology, Belfast City Hospital, Belfast, Northern Ireland

SUMMARY A 54 year old man had generalised systemic amyloidosis secondary to bilateral basal bronchiectasis of the lungs. He died after an unexpected asystolic cardiac arrest. Necropsy showed extensive amyloid deposition in the cardiac conduction system,

Cardiac amyloidosis is a well established but uncommon cause of haemodynamic and electrocardiographic abnormalities.¹⁻¹¹ Several workers have incriminated to varying degrees the presence of amyloid deposits within the cardiac conduction system as the underlying pathophysiology.¹⁰⁻¹¹ We report a case of systemic amyloidosis occurring in a 54 year old man secondary to bilateral basal bronchiectasis, who died after a sudden asystolic cardiac arrest due to direct amyloid deposition in his conduction system. An abnormal electrocardiogram was recorded eight months before death.

Case report

A 54 year old man was admitted to Belfast City Hospital for evaluation of chronic renal failure. He had a history of bronchiectasis, and nephrogenic diabetes insipidus had been diagnosed two years previously after investigations for polyuria. The cause of his renal failure was considered to be renal amyloidosis since gastric and rectal biopsy specimens stained positively with congo red. Since his creatinine clearance was 11 ml/min an arteriovenous fistula was created in anticipation of the need for haemodialysis. A 12 lead electrocardiogram recorded at this time showed a sinus rhythm of 65 beats/min with first degree heart block (PR interval 0.28 s; QRS interval 0.11 s) and incomplete left bundle branch block (Fig. 1). An unspecific ST/T wave abnormality was also present. He was readmitted to hospital eight months later complaining of breathlessness and neck swelling.

Requests for reprints to Dr Derek C Allen, Histopathology Laboratory, The Laboratories, Belfast City Hospital, Belfast BT9 7AD, Northern Ireland.

Examination showed sinus rhythm, no signs of heart failure, and a diffuse goitre. Renal function was little changed with a creatinine clearance of 10 ml/min, a serum urea concentration of 16.9 mmol/l (1.0 g/l), and a serum potassium concentration of 3.7 mmol (mEq)/l. He was treated for exacerbation of bronchiectasis, but despite initial improvement sudden cardiac arrest occurred 24 hours later. His electrocardiograms showed asystole, and resuscitation was unsuccessful.

NECROPSY FINDINGS

Necropsy showed enlarged emphysematous lungs with pronounced bronchiectatic changes in both bases. The peripheral airways were dilated and congested, and the overlying pleural cavities contained fibrous adhesions. The other organs were affected to varying degrees by amyloid infiltration. The kidneys and parathyroid glands showed an obvious waxy pallor, and a pronounced amyloid goitre (110 g) was evident. Histological examination showed involvement of the liver, spleen, skin, other endocrine glands, and the gastrointestinal tract. Lung deposition was minimal.

The total heart weight was 580 g, and there was moderate biventricular dilatation and hypertrophy. The aorta and coronary arteries contained only a minimal amount of atheroma, and wide lumen patency was maintained at all points. The pericardium was translucent, and the valves were not thickened. Histological examination did not show any recent or long standing ischaemic myocardial damage. The ventricular interstitium and its vessels contained small amounts of congo positive amyloid. The subendocardial aspects of both atria contained focal amyloid deposits, but the cardiac valves, pericardium, and epicardial vessels and nerves were not affected.

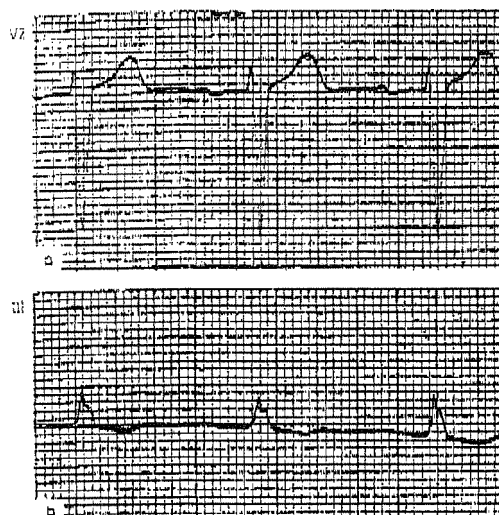


Fig. 1 Twelve lead electrocardiogram showing (a) a prolonged PR interval (0.28 s) and (b) incomplete bundle branch block.

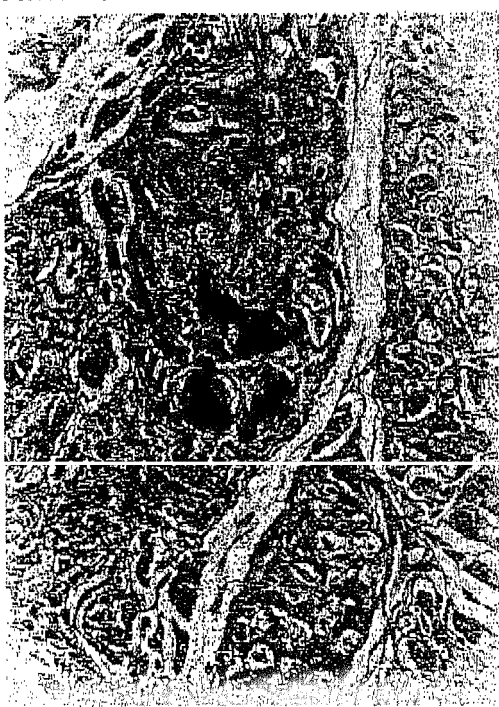


Fig. 2 Histological section showing the sinoatrial node containing extensive amorphous amyloid deposits both surrounding and replacing conducting myofibrils. (Haematoxylin and eosin $\times 300$ original magnification.)

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The sinoatrial node contained extensive amyloid, and the branches of its supplying artery were diffusely thickened (Fig. 2). The main nodal artery was not involved. Amyloid had also been deposited in the atrioventricular node, the His bundle as it penetrated the central fibrous body (Fig. 3), and the left main bundle branch. The myofibrils were intimately mixed with homogeneous eosinophilic amyloid. The absence of appreciable nodal and conducting element fibrosis was confirmed using a sodium alcian blue stain. It was interesting to note that amyloid deposition was notably heavier in the conduction system than in the myocardium.

Discussion

Dissection of the main components of the human cardiac conduction system is well documented.¹⁴ The sinoatrial node lies at the crest of the right atrial appendage where it joins the superior vena cava. The atrioventricular node lies anterior to the coronary sinus beneath the right atrial endocardium, and the main His bundle runs forward and down through the central fibrous body below the membranous septum. Serial blocks and examination at multiple levels are required. The paraffin processed tissue sections in this patient were stained orange-red with alkaline congo red, and these amyloid deposits showed an apple green birefringence under polarised light. Presence of amyloid was confirmed by staining with sodium alcian blue, and with thioflavine T viewed for fluorescence under ultraviolet light (Fig. 3b). The sections were also sensitive to potassium permanganate decolorisation, a feature considered by some to be histological confirmation of secondary amyloid.¹⁵

Cardiac amyloidosis is classically thought of as an infiltrative cardiomyopathy with subsequent cardiac failure which may be refractory to conventional treatment. It may mimic the clinical picture of constrictive pericarditis and the electrocardiographic changes of healed infarction.¹⁶ Unspecific electrocardiographic abnormalities such as low voltage and axis deviation have been noted. James asserted that the "disturbance of cardiac function and conduction are in a significant amount due to the amyloid infiltration directly" (that is, of the conduction system). He found heavy sinoatrial node deposits and atrial fibrillation in two of his five cases. Others have since reinforced his comments,¹⁷ but sinus rhythm has also been reported in the presence of severe conduction system infiltration.¹⁸ Prolongation of the QT interval has been reported in amyloid heart disease.¹⁹ Bhargava reported a case of recurrent ventricular fibrillation and extensive cardiac conduction system deposition of amyloid.²⁰ In 1960 sudden death occurred in two cases



Fig. 3 Histological section showing the His bundle intimately mixed with conducting myofibrils. (Haematoxylin and eosin $\times 400$ original magnification.)

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Two main aetiological factors for dysfunction in amyloidosis (or intramyocardial vessels) and the ischaemic lesions.) and the patient had amyloid throughout, increasing the function.

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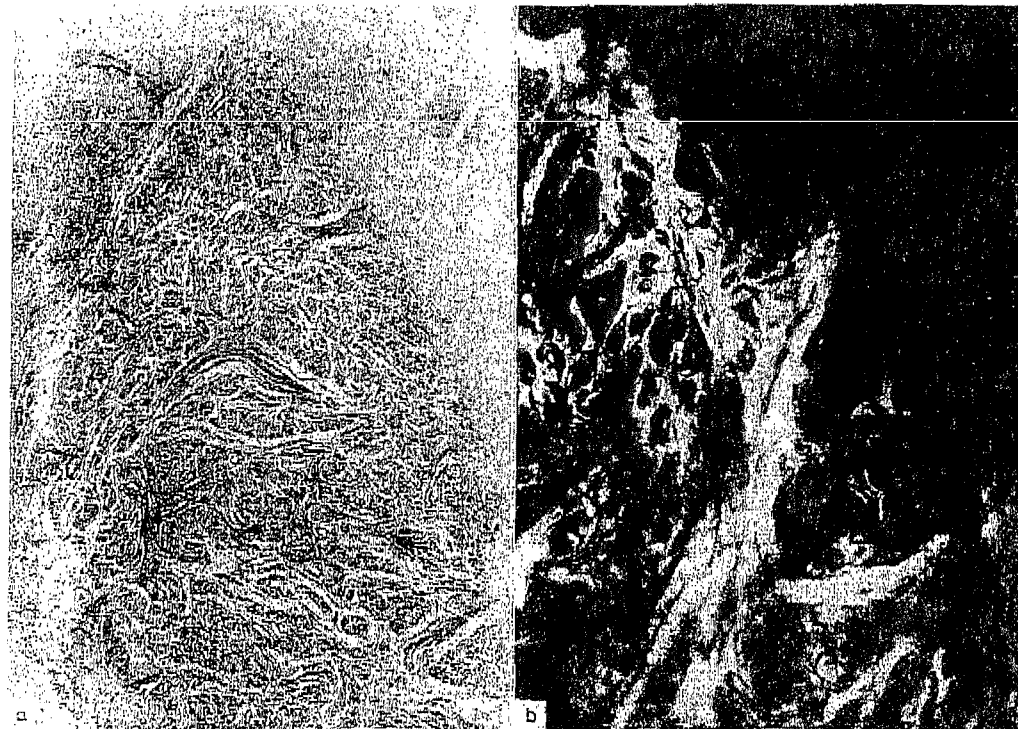


Fig. 3 Histological section showing the main His bundle penetrating the central fibrous body and extensive amyloid deposition intimately mixed with conducting elements (haematoxylin and eosin $\times 125$ original magnification); and (b) a higher power view of the His bundle with the central fibrous body in the top right corner; abundant amyloid is confirmed (thioflavine T viewed under ultraviolet light $\times 400$ original magnification).

of primary cardiac amyloidosis associated with atrio-ventricular node and His bundle infiltration.¹⁴ In a series by Wright and Calkins¹⁸ 30% of their patients with primary amyloidosis died suddenly, probably from arrhythmic cardiac involvement. This danger had been noted elsewhere but not substantiated by conduction system dissection in either case.¹⁹ Sudden death occurred in our patient in the absence of severe atheromatous disease or electrolyte abnormalities and in the presence of conduction system amyloid infiltration.

Two main aetiological factors have been suggested for dysfunction in amyloid heart disease. The coronary or intramyocardial vessels may be thickened causing ischaemic lesions,⁴ and the amyloid deposition may atrophy the parenchyma directly. The latter mechanism leads to a less compliant and contractile myocardium with haemodynamic disturbances. Our patient had amyloid throughout his conduction system, increasing the functional implications of the

deposits. This was confirmed by an abnormal electrocardiogram showing first degree heart block and incomplete left bundle branch block.

This case therefore illustrates the potential hazard of sudden death from conduction system disease in patients with generalised systemic amyloidosis.

We thank Dr J D Biggart for his advice on the pathological specimens and Dr M E Scott for reviewing the electrocardiogram. We also thank Mr John Orchin for his technical and photographic expertise.

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Notice

British Cardiac Society

The Annual General Meeting for 1984 will take place in Leicester on 11 and 12 April 1984, and the closing date for receipt of abstracts was 3 January 1984.

The Autumn Meeting in 1984 will be held on 3 and 4 December 1984, and the closing date for receipt of abstracts will be 15 August 1984.

Sir,
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The Conduction System in Cardiac Amyloidosis

Clinical and Pathologic Features of 23 Patients

REN L. RIDOLFI, M.D.
BERNADINE H. BULKLEY, M.D.
GROVER M. HUTCHINS, M.D.
Baltimore, Maryland

Cardiac amyloidosis is frequently associated with major electrocardiographic conduction disturbances; but that these disturbances are due to infiltrative destruction of the conduction system by amyloid is unclear. We studied the conduction systems in 23 autopsy patients with cardiac amyloidosis (group 1) (mild in seven, moderate in five and severe in 11), 21 (91 per cent) of whom had had abnormalities of conduction or rhythm during life. For comparison, we examined the conduction system in 23 control subjects matched in age and heart weight (group 2).

Of the 23 patients in group 1, only three had extensive amyloidosis of the conduction system; in all three, electrocardiograms showed first degree atrioventricular block and left anterior hemiblock. A more common morphologic abnormality of the conduction system was severe sinoatrial node fibrosis present in seven (30 per cent) patients, and idiopathic atrophy and fibrosis of the bundle branches present in six (26 per cent) patients. None of the patients in group 2 had severe sinoatrial node fibrosis; but two (9 per cent) had idiopathic atrophy and fibrosis of the left bundle branch. Marked fibrosis of the sinus node was more frequent in patients with severe or moderate amyloid, but fibrosis of the bundle branch did not appear to be related to the amount of amyloid elsewhere in the heart. Varying degrees of atrioventricular and bundle branch block were also present in six patients with no morphologic abnormalities of the conduction system. Thus, conduction and rhythm disturbances are frequent in cardiac amyloidosis, but direct amyloid infiltration of the specialized conduction tissue of the heart does not account for the majority of these disturbances. Whether the increased incidence of fibrosis of the conduction system in group 1 compared to it at group 2 relates to the infiltrative myocardiopathy is uncertain.

From the Departments of Pathology and Medicine, the Johns Hopkins University School of Medicine and Hospital, Baltimore, Maryland. This study was supported by Grant P17-HL-17655-01 from the National Institutes of Health, Public Health Service, Department of Health, Education and Welfare; and the Stetler Research Fund for Women Physicians. Requests for reprints should be addressed to Dr. Grover M. Hutchins, Department of Pathology, The Johns Hopkins Hospital, Baltimore, Maryland 21205. Manuscript accepted August 18, 1976.

Amyloid heart disease may be associated with a wide variety of cardiac arrhythmias and conduction disturbances [1-15], but whether or not the frequently associated electrocardiographic abnormalities are a consequence of amyloid infiltration within the conduction system has been a subject of controversy. Extensive amyloid in the specialized conduction tissue correlating with associated electrocardiographic disturbances has been found by some investigators [16] but not by others [17,18]. These studies have been limited to a few selected patients with severe myocardial amyloid involvement and leave unclear

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whether or not direct amyloid infiltration accounts for a large or small part of the conduction abnormalities seen frequently in patients with cardiac amyloid.

To determine the importance of direct conduction system involvement by amyloid to the development of arrhythmias and conduction disturbances, we studied the clinical and pathologic features of 23 patients with cardiac amyloidosis. The sinoatrial and atrioventricular conduction systems were examined in detail with

specific reference to electrocardiographic abnormalities during life. The findings were compared among groups of patients with mild, moderate and severe cardiac amyloidosis, and a group of control patients.

MATERIALS AND METHODS

The records of 23 patients with cardiac amyloidosis (group 1), taken from the autopsy files of The Johns Hopkins Hospital, whose hearts were available for examination were

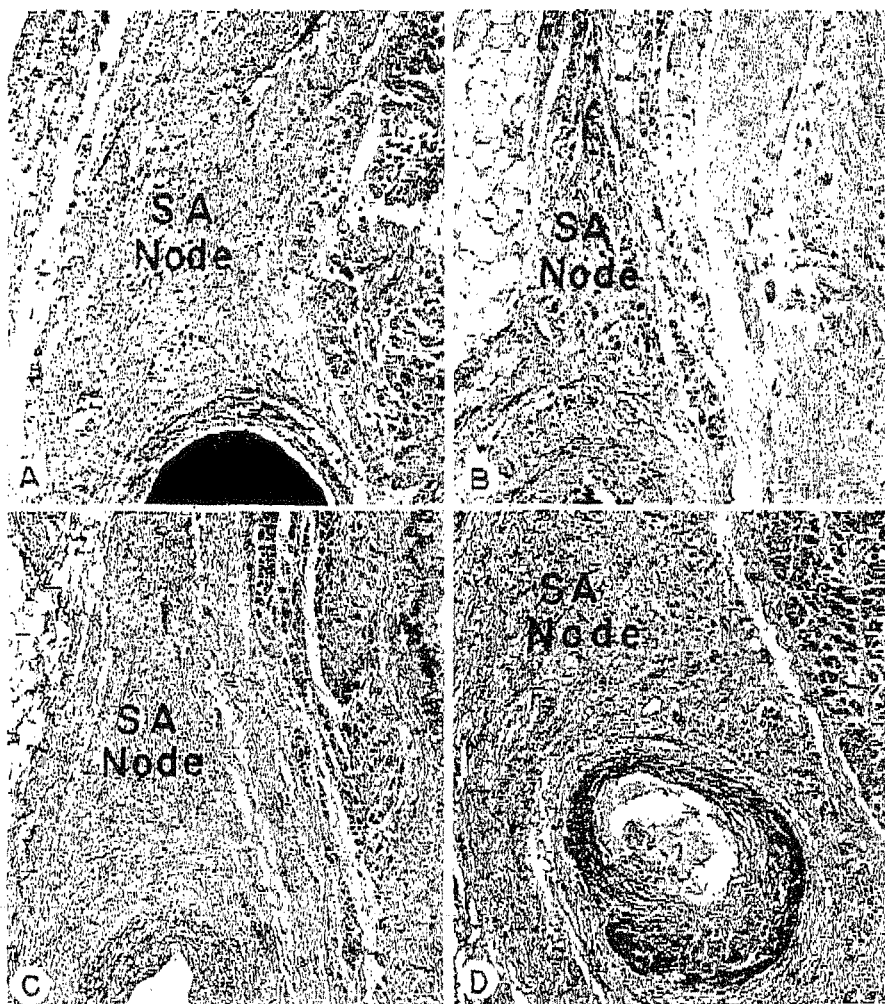


Figure 1. A, sinoatrial (SA) node from patient (Case 11) showing normal nodal tissue above the artery to the sinoatrial node. The artery is filled with dark staining injection mass. Nodal fibers are admixed within a delicate connective tissue background. B, portion of a mildly fibrotic sinoatrial node from patient (Case 16) in which there was severe cardiac amyloidosis. Part of the sinoatrial node artery is at the bottom left. There is focal fibrous replacement of nodal fibers within the midportions of the node. The atrial myocardium at the right shows severe amyloid deposition but there is none within the node tissue itself. Electrocardiogram showed left anterior hemiblock but no atrial rhythm disturbance. C, portion of sinoatrial node with severe fibrosis but no amyloid deposition from patient (Case 10). Only rare nodal fibers are present within the scarred node. The sinoatrial node artery is below and the endocardium with heavy amyloid deposits at the upper right. Electrocardiogram showed no atrial rhythm disturbance. D, portion of the severely fibrotic sinoatrial node from patient (Case 12). The sinoatrial node artery shows mural amyloid deposits (dark in this stain) but the lumen is patent. The atrial myocardium at the right is unremarkable. Electrocardiogram showed sinus bradycardia. Hematoxylin and eosin stain (A, B and C), Congo red stain (D); original magnification $\times 90$; reduced by 5 per cent.

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CONDUCTION SYSTEM IN CARDIAC AMYLOIDOSIS—RIDOLF ET AL.

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studied, and their clinical histories were reviewed. The hearts were examined grossly, and histologic sections were taken from both atria and ventricles. The presence of amyloid was confirmed by Congo red staining and dichroic birefringence in histologic sections of myocardium [19]. At least 50 sections of myocardium, including the left and right ventricle, and atria in each patient, were examined. The atrioventricular node and bundle branch networks were removed in a single block [20]. The blocks were serially sectioned at 8 μ intervals and every 15th section was retained; two of every three retained sections were stained with hematoxylin and eosin or aldehyde fuchsin-elastic, respectively, and every third section was stained as indicated with either Congo red, cresyl violet, Vethoeff-van Gieson elastic or Masson's trichrome. In 22 of the 23 hearts the sinoatrial node was present; it was removed in a single block as described by Hudson [21], subdivided and sectioned for histologic study. Blocks which contained sinoatrial node tissue were further serially sectioned and stained in the manner described.

Amyloid involvement of the myocardium was graded mild, moderate or severe on the basis of the findings on combined gross and microscopic examination of the hearts. The grading was based on an estimate of the amount of amyloid present: mild if less than 10 per cent, moderate if approximately 10 to 40 per cent and severe if greater than 40 per cent of the myocardium was amyloid. With moderate and severe involvement, amyloid was evident by gross inspection. Within the specialized conduction system alone, amyloid involvement and fibrosis were graded on a scale of 1+ to 4+,

ranging from mild to severe involvement, respectively (Figure 1).

The conduction system of 23 control patients (group 2) matched for age within two years were studied in a fashion identical to that described. Electrocardiographic abnormalities were recorded in each case.

RESULTS

Clinical Findings. The average age of the patients in group 1 (Table I) was 75 years (range 44 to 88 years); 19 of them were 70 years of age or older. Eighteen of the 23 patients had what has been termed a "senile" pattern of amyloid distribution. In senile amyloidosis, amyloid is deposited mainly in the heart, involvement of the vessel walls, lung, pancreas and other organs is less severe [22,23]. In 10 of the 18 patients with senile-type, amyloid was confined entirely to the heart. One of the 18 patients with senile-pattern amyloid also had active meningovascular syphilis (Case 4).

Of the remaining five patients with cardiac amyloid, three had a plasma cell dyscrasia (Cases 2, 12 and 22), one had generalized amyloidosis in a familial pattern with prominent renal involvement (Case 7) [24], and one has a primary distribution with prominent nerve involvement (Case 21). The hearts ranged in size from 350 to 800 g with an average weight of 551 g. Coronary artery disease was minimal; only one of 23 patients had

TABLE I Clinical and Pathologic Features of Patients with Cardiac Amyloidosis (Group 1) and Control Patients (Group 2)

Features	Cardiac Amyloidosis (Group 1)				Control Group
	Mild	Moderate	Severe	Total	No Amyloid
Clinical					
Patients (no.)	7	5	11	23	23
Age (yr)					
Range	52-78	75-84	44-88	44-85	46-09
Average	69	80	78	76	76
Sex (no.)					
Male	5	3	7	15	14
Women	2	2	4	8	9
Congestive heart failure (no.)	7 (100)*	5 (100)	10 (90)	22 (96)	9 (39)
Systemic hypertension (no.)	5 (71)	2 (40)	5 (45)	12 (52)	6 (26)
Electrocardiographic					
Atrial arrhythmias (no.)	3 (43)	2 (40)	4 (36)	9 (39)	3 (13)
Atrioventricular block (first degree, second degree, complete heart block)	3 (43)	2 (40)	5 (45)	10 (43)	4 (17)
Bundle branch block (no.)	3 (43)	2 (40)	2 (18)	7 (30)	2 (9)
Low voltage (no.)	2 (29)	1 (20)	5 (45)	8 (35)	0 (0)
Poor precordial R wave progression (no.)	1 (14)	1 (20)	5 (45)	7 (30)	5 (22)
Pathologic					
Heart weight (g/average)	570	420	599	551	570
Sinus node (no.)					
Amyloid (severe)	0	0	2 (18)	2 (9)	...
Fibrosis (severe)	1 (14)	2 (40)	4 (36)	7 (30)	0 (0)
Atrioventricular node-bundle branch (no.)					
Amyloid (severe)	0	0	2 (18)	2 (9)	...
Fibrosis (severe)	2 (29)	1 (20)	3 (27)	6 (26)	2 (9)

* Figures in parentheses represent per cent.

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greater than 75 per cent luminal narrowing of one or more of the major extramural coronary arteries.

Twelve patients (52 per cent) had a history of systemic hypertension, defined as a recorded blood pressure level of 140/90 mm Hg or greater. In five of these patients, four with severe amyloid in the heart, hypertension disappeared in the latter part of their clinical course.

Congestive heart failure was present in 22 patients (96 per cent): New York Heart Association class III and IV in 17 and class I and II in five. The group with class III and IV failure included 10 patients with severe cardiac amyloid and seven with mild or moderate cardiac amyloid. Hypertension and/or renal disease may have contributed to the congestive failure in at least 15 of these 22 patients. Some form of stable electrocardio-

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TABLE II Electrocardiographic and Pathologic Findings (Group 1)

Case No.	Age (yr) and Sex	Type of Amyloid	Rhythm and Conduction Disturbances*	Sinus Node	A-V Node	Main Bundle	Left Bundle	Right Bundle
Mild Cardiac Amyloidosis (7 Patients)								
1	64, M	Senile	PVC; complete heart block	...	...	...	1 + F	...
2	78, M	Plasma cell dyscrasia	1° AVB, RBBB	...	...	...	...	...
3	65, W	Senile	Atrial fibrillation LBBB, WE	1 + F	...	...	4 + F	...
4	70, M	Senile	PAC	4 + F	...	...	...	...
5	78, M	Senile	LBBB	...	...	...	4 + F	...
6	76, M	Senile	1° AVB, PAC, atrial fibrillation	...	...	...	...	...
7	52, W	Familial	None	...	...	...	...	...
Moderate Cardiac Amyloidosis (5 Patients)								
8	75, M	Senile	PAC, PVC, 1° AVB, LBBB	...	...	...	4 + F	...
9	81, M	Senile	PVC	1 + A	...	...	...	1 + A
10	82, M	Senile	LAH, RBBB	2 + F	...	...	...	...
11	84, M	Senile	Intermittent CHB (with myocardial infarction)	1 + A	...	...	...	...
12	81, W	Plasma cell dyscrasia	Sinus bradycardia	3 + F	...	...	...	...
				4 + F, 4 + A in sinus artery	1 + A vessel	3 + A vessel	3 + A vessel	3 + A vessel
Severe Cardiac Amyloidosis (11 Patients)								
13	72, M	Senile	PAC, PVC, 2° HB, escape nodal rhythm	1 + A	...	...	...	...
14	73, M	Senile	Atrial fibrillation	3 + F	...	...	...	2 + A
15	88, M	Senile	PAC, PVC	1 + A	...	...	1 + F	1 + A
16	84, W	Senile	LAH	2 + F	...	...	1 + A	1 + A
17	81, M	Senile	None	1 + A	2 + A vessel	2 + A vessel	3 + A vessel	...
18	83, W	Senile	1° AVB, LAH	2 + F	...	...	2 + A	1 + A
19	85, M	Senile	Escape nodal rhythm	3 + A	...	1 + A	...	...
20	88, W	Senile	1° AVB, LBBB	4 + F	...	...	4 + F	1 + A
21	44, M	Primary	1° AVB, LAH	1 + F	...	...	...	...
22	75, M	Plasma cell dyscrasia	Atrial fibrillation LBBB	3 + A	4 + A	...	4 + A	...
23	86, W	Senile	1° AVB, LAH	Not studied	...	...	4 + F	...
				3 + A sinus artery	4 + A	4 + A	4 + A	4 + A

*A = amyloid; AVB = atrioventricular block; F = fibrosis; LAH = left anterior hemiblock; LBBB = left bundle branch block; RBBB = right bundle branch block; PAC = premature atrial contraction; PAT = paroxysmal atrial tachycardia; PVC = premature ventricular contraction.

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graphic abnormalities was present in all 23 patients, documented within a period of three months before death: nine had atrial arrhythmias, including four with atrial fibrillation; eight had first or second degree block; seven had complete left or right bundle branch block; five had left anterior hemiblock; and two had complete heart block. In two patients the only abnormalities were nonspecific changes in the S-T segment or T wave. Additional electrocardiographic findings were low voltage in eight patients, and delayed R wave progression across the precordium suggestive of old myocardial infarcts in seven. In each instance there was no clinical evidence of digitalis toxicity to account for these electrocardiographic abnormalities.

Autopsy Observations. Group 1. Mild cardiac amyloid: Findings in the seven patients with mild deposition of amyloid within the heart are summarized in Table II. Two patients had atrial fibrillation, two had first degree heart block, one had complete heart block, and three had right or left bundle branch block. Despite these disturbances, direct amyloid deposition within the sinoatrial node, atrioventricular node or remaining distal conduction tissues was absent or negligible in all patients. Focal scarring, however, was present in portions of the conduction system of three patients that may have accounted for electrocardiographic abnormalities: one patient with premature atrial contractions had severe fibrosis of the sinus node unassociated with amyloid within the node or sinus node artery; two patients with left bundle branch block had atrophy and fibrosis of the proximal left bundle (Figure 2).

Moderate cardiac amyloid: Five patients had moderate amyloid infiltration of myocardium. Despite the presence of premature atrial contractions, first degree atrioventricular block, left bundle branch block, left anterior hemiblock, right bundle branch block, intermittent complete heart block and sinus bradycardia among these patients, amyloid deposition within the specialized conduction tissue accounted for none of these disturbances (Figure 1A). Fibrosis within the conduction system was present in three patients (Figure 1C). Scarring of the sinus node in association with amyloid deposition within the sinus node artery and other intramural coronary arteries was present in one patient whose only electrocardiographic abnormality was episodic sinus bradycardia (Figure 1D). One other patient had moderate scarring and mild amyloidosis of the sinus node, with no documented associated arrhythmias. A third patient with left bundle branch block had atrophy and fibrosis of the proximal left bundle, which was entirely free of amyloid deposits (Figure 3). In one of these five patients complete heart block developed after an acute inferior myocardial infarction, but the sinoatrial and atrioventricular nodes and bundle branches were free of ischemic damage.

Severe cardiac amyloid: Eleven patients had extensive deposits of amyloid throughout the myocardium (Table II). Conduction disturbances present in this group of patients included escape nodal rhythms in two patients, atrial fibrillation in two, premature atrial contractions in two, first degree heart block in four, left anterior hemiblock in four and left bundle branch block in two. Although small focal deposits of amyloid were present within the conduction tissue in 10 of the 11 patients, the conduction tissue was markedly spared relative to the involvement of the surrounding myo-

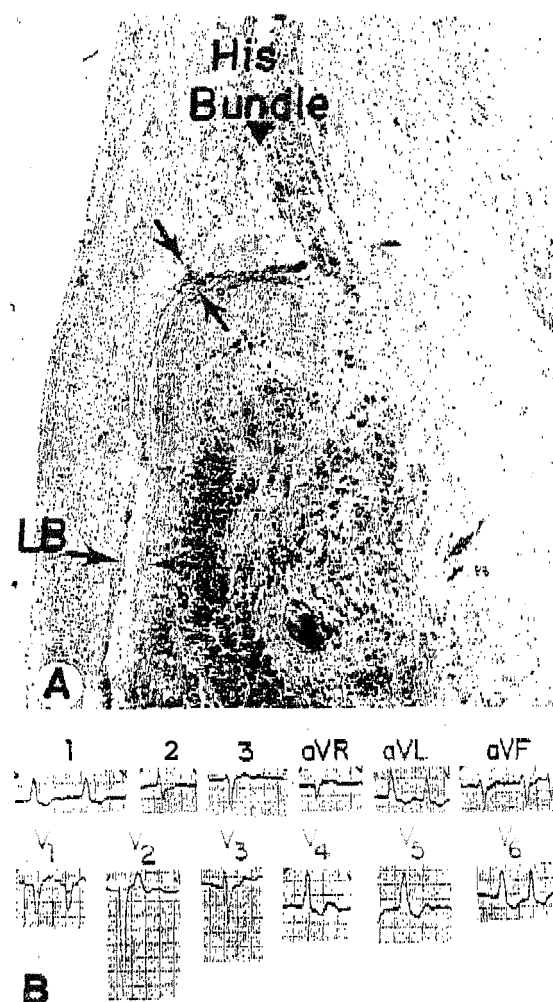


Figure 2. Case 3. A, atrophy and fibrosis of the proximal left bundle (LB) extending over the segment between arrows. His bundle is above center and continuation of left bundle at lower left. Hematoxylin and eosin stain, magnification $\times 60$. B, electrocardiogram showing atrial fibrillation and left bundle branch block.

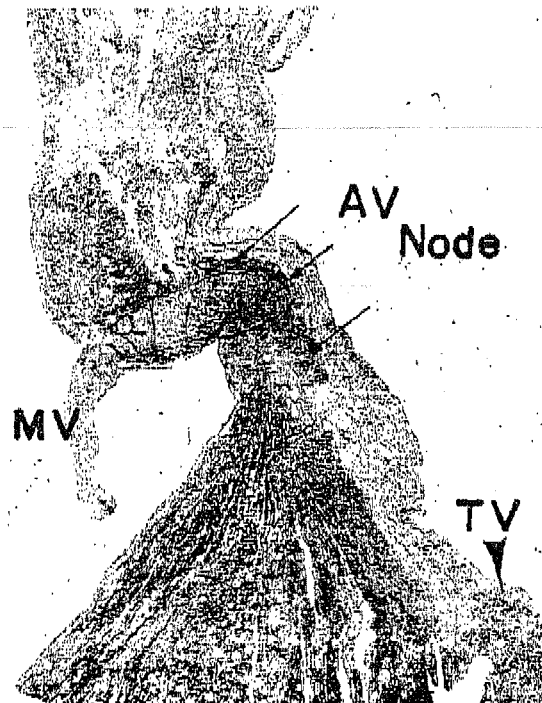
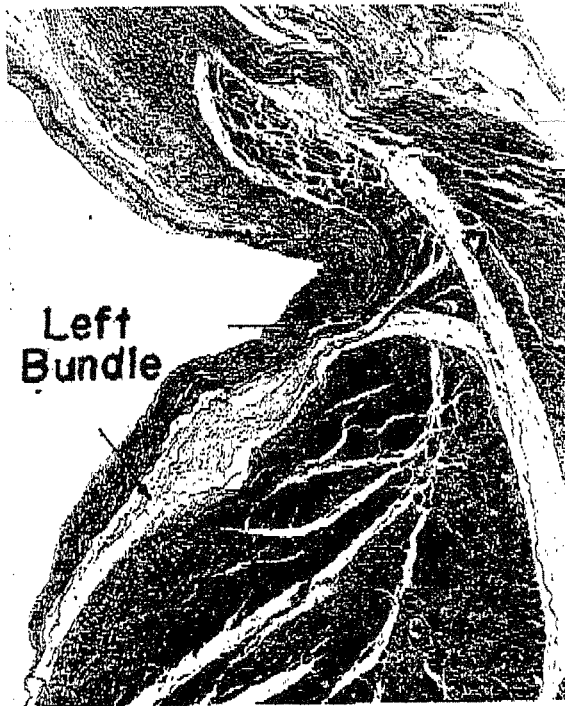


Figure 3. Case 8. Atrophy and fibrosis of the proximal left bundle branch in a patient with moderate cardiac amyloidosis (arrows) with normal His bundle above. Electrocardiogram showed left bundle branch block. Hematoxylin and eosin stain, magnification $\times 30$.

Figure 4. Histologic section from patient (Case 15) with severe cardiac amyloid at the level of the atrioventricular (AV) node (arrows) shows absence of amyloid deposits within this structure. The atrial myocardium above is almost entirely replaced by amyloid and the ventricular wall below is severely involved by amyloid. The remainder of the conduction system showed similar sparing of amyloid deposition. Electrocardiogram showed premature atrial and ventricular contractions. MV = mitral valve; TV = tricuspid valve. Hematoxylin and eosin stain, magnification $\times 6$. NOTE: This and subsequent photographs of the atrioventricular node and bundles are oriented as one follows the system from its proximal (posterior-inferior) to distal (anterior-superior) location. Hence the tricuspid valve is on the right.

Figure 5. Histologic section from patient (Case 18) with severe cardiac amyloid at a level within the conduction system similar to that shown in Figure 4 which demonstrates sparing of the atrioventricular node (center) in the presence of massive atrial amyloidosis (right). The central fibrous body (CFB) is at the lower left. Hematoxylin and eosin stain, magnification $\times 60$.

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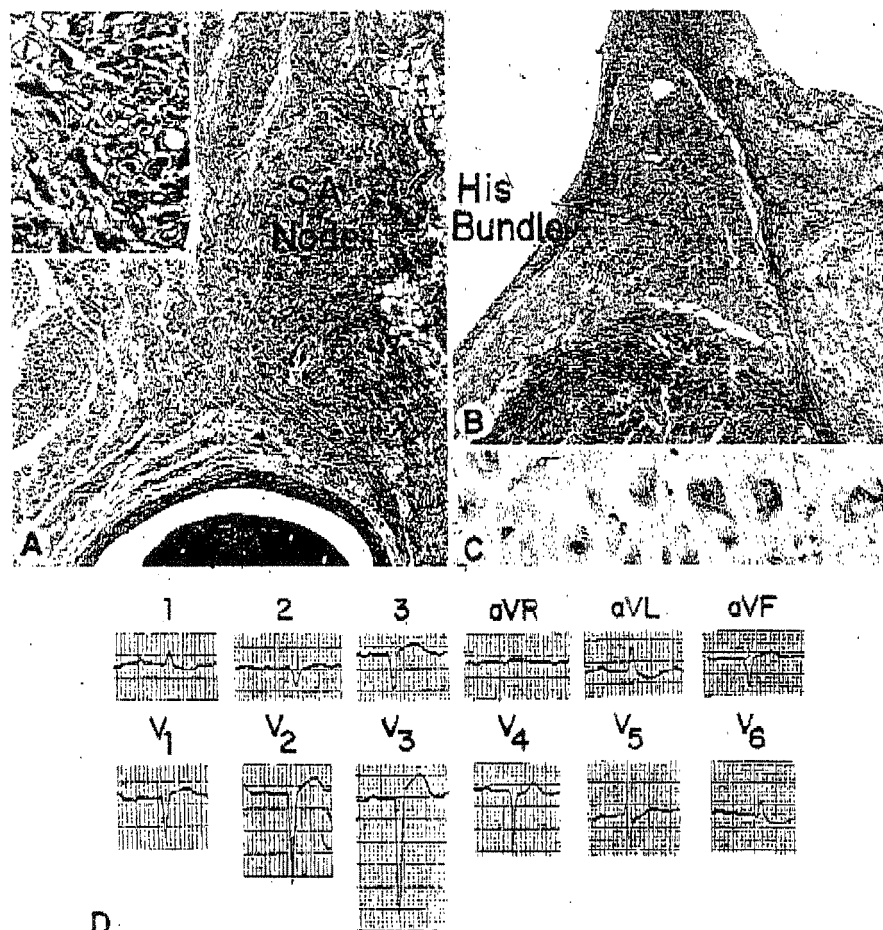


Figure 6. Case 21. Patient with severe myocardial and conduction system amyloidosis. **A**, the sinoatrial node with good preservation of architecture. The injected sinoatrial node artery is at the bottom. Inset shows the amyloid (lighter stain) encircling individual muscle cells of the sinoatrial node. There is no increase of fibrous tissue. **B**, His bundle with massive amyloid replacement. **C**, severe myocardial amyloid shown surrounding muscle fibers. **D**, electrocardiogram showing first degree heart block and left anterior hemiblock. Hematoxylin and eosin stain, magnification $\times 60$ (**A**); $\times 300$ (inset); $\times 30$ (**B**) and $\times 300$ (**C**).

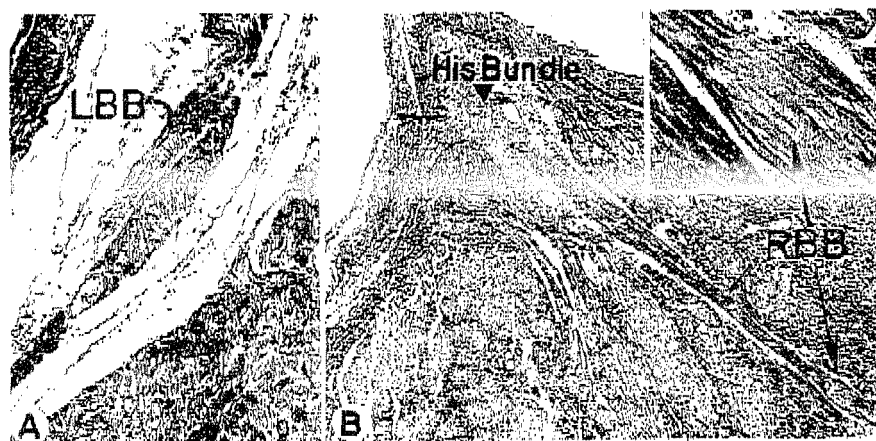


Figure 7. Case 18. Patient with severe cardiac amyloidosis and focal deposits within the bundle branches. The electrocardiogram revealed first degree heart block and left anterior hemiblock. **A**, left bundle branch (LBB) with lighter staining amyloid deposits interrupting the bundle. **B**, Overview showing His bundle at top and the right bundle branch (RBB) (arrows). Inset shows the nodule of amyloid (lower arrow) which partially interrupted the right bundle but was unassociated with a corresponding electrocardiographic abnormality. Hematoxylin and eosin stain, magnification $\times 125$ (**A** and inset) and $\times 25$ (**B**).

cardium (Figures 4 and 5). Only three of the 11 patients had extensive amyloid deposition within portions of the conduction system. In two patients (Cases 21 and 23), involvement of the sinoatrial and atrioventricular nodes, and both bundle branches was associated with first degree block and left anterior hemiblock (Figure 6). In the third patient, whose electrocardiogram also showed first degree and left anterior hemiblock, the deposits were limited to the sinus node and to focal areas within the left and right bundle branches (Figure 7) sparing entirely the atrioventricular node and main bundle.

Despite the paucity of direct amyloid infiltration of the specialized conduction fibers, mild to severe focal fibrosis was present in nine of the 11 patients with severe myocardial amyloid; in five of them the fibrosis may have been clinically significant. In two patients (Cases 13 and 19), severe fibrosis of the sinus node was associated with escape nodal rhythms and atrioventricular dissociation. In three patients (Cases 16, 20 and 22), fibrosis interrupted all or part of the left bundle: electrocardiograms showed left anterior hemiblock in one and complete left bundle branch block in two.

Comparison group: For comparison with the patients with amyloid (group 1), 23 patients without cardiac amyloidosis (group 2) were selected for conduction system study. They were matched for age within two years of the patients with amyloid and heart weight. These patients were chosen without knowledge of their electrocardiographic findings or cardiac disease.

These patients ranged in age from 46 to 89 years, with an average age of 76 years; 19 were over 70 years old. The electrocardiographic abnormalities in these patients documented within a period of three months before death were as follows: three had atrial arrhythmias including two with atrial fibrillation; atrioventricular block was present in four, including a first degree block in two, second degree Mobitz II block in one and complete heart block in one; left bundle branch block was present in one and left anterior hemiblock in one. The over-all incidence of rhythm or conduction disturbances among these 23 patients was 39 per cent, in contrast to 41 per cent among the patients in group 1.

The conduction systems in these patients were examined by the method described herein. Specific findings were mild sinoatrial node fibrosis in two (9 per cent) patients (each unassociated with an electrocardiographic rhythm disturbance, and none had severe sinus node fibrosis); idiopathic atrophy and fibrosis of the left bundle branch in two patients (one with complete heart block and one with left bundle branch block); and mild fibrosis of the proximal left bundle branch in three patients who had no evidence of conduction block on electrocardiogram. Thus, severe sinus node fibrosis was not present in any of the patients in group 2, but it was present in 30 per cent of the patients in group 1;

severe fibrosis of the atrioventricular node or bundle branches was present in 9 per cent of the patients in group 2 and in 26 per cent of those in group 1.

COMMENTS

The most striking finding within each group of patients with different degrees of cardiac amyloidosis was the marked sparing of the specialized conduction tissue relative to the deposition of amyloid elsewhere in the heart. Of the 23 patients studied, only three had severe amyloid infiltration of the sinus node, atrioventricular node, bundle of His or its major branches. Amyloid infiltrates were extensive in the sinus node of two of these patients, and the sinus node artery in the other patient with associated sinus node fibrosis. In all three patients amyloid deposits within the atria and ventricles were severe and even more extensive than the deposition of amyloid within the sinoatrial node itself. In none of these patients, however, was the amyloid infiltration of the sinus node reflected in an electrocardiographic abnormality; all three patients were in stable sinus rhythms. Diffuse amyloid infiltration of the atrioventricular node, bundle of His and bundle branches in two of these three patients, and focal deposits in the bundle branches of the third were associated with electrocardiographic evidence of first degree heart block and left anterior hemiblock in each.

Although amyloid in the conduction system can explain rhythm and conduction disturbances in some patients with cardiac amyloidosis, it clearly did not account for the majority of these disturbances in this study. In group 1 all 23 of our patients had abnormal electrocardiograms, and 21 (91 per cent) had some abnormality of rhythm or conduction including first and second degree heart block, complete heart block, bundle branch block and escape nodal rhythms with atrioventricular dissociation. As already indicated, in only three patients (13 per cent) were conduction disturbances accounted for by direct amyloid infiltration of the specialized conduction tissue of the heart, but eight patients (36 per cent) had sinoatrial or atrial rhythm disturbances and 13 (57 per cent) had evidence of atrioventricular or bundle branch block.

Examination of the conduction systems in our patients provided other explanations for the frequent electrocardiographic disturbances. Severe sinus node fibrosis was present in seven patients (30 per cent), although observed with all degrees of cardiac amyloidosis, appeared more frequent when amyloid deposits were moderate or severe (Table I). Fibrosis within the sinoatrial node may be seen in association with a number of disease processes including pericarditis, uremia, scleroderma, rheumatic heart disease, idiopathic myocardiopathies and ischemic heart disease [21, 25-27]. Fibrous tissue does not appear to increase

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within the sinoatrial node with age in adults [28]. Furthermore, we did not observe severe sinoatrial node fibrosis in any of 23 age-matched patients in group 2. Thus, the explanation for nodal fibrosis in group 1 remains unclear, but it likely is related to the infiltrative amyloid myocardiopathy. Sinus artery involvement by amyloid, which could possibly produce ischemic and nodal fiber atrophy, was absent in all but two patients.

Idiopathic atrophy and fibrosis of the proximal left bundle branch (4+ fibrosis) was present in six patients (25 per cent) and was more than twice as frequent as direct amyloid infiltration. Unlike sinus node fibrosis, the lesion was found with equal frequency in patients with mild, moderate and severe cardiac amyloidosis, and was found three times as often as in the age-matched control group. Atrophy and fibrosis of the left bundle system, variably named "sclerosis of the cardiac skeleton" and "idiopathic bundle branch fibrosis" [29,30], has been shown to be the most frequent cause of longstanding complete heart block [31], and it may be associated with isolated left and right bundle branch block and left anterior hemiblock [32-35]. The pathogenesis of this entity remains unclear, but it has been suggested that it is an exaggerated aging process related to mechanical stress in this region [30], that it is a degenerative or myopathic entity [29] or that it is a sequelae of previous damage due to myocarditis [36]. Whatever the cause, atrophy and fibrosis within the bundle branches and not direct amyloid infiltration most often accounted for conduction block in our patients.

Atrioventricular and bundle branch block were also present in six patients without accountable pathologic findings in their conduction systems: three had first degree heart block, and in one it was in combination with right bundle branch block; one patient had right bundle branch block and left anterior hemiblock; and two patients had complete heart block. In the latter two patients, complete heart block developed shortly before death in the setting of an acute pulmonary embolus in one and an inferior myocardial infarction in the other. The clinical conduction disturbances in the four other patients were entirely without morphologic or clinical explanation. Amyloid infiltration of surrounding myocardium did not account for the conduction disturbances

CONDUCTION SYSTEM IN CARDIAC AMYLOIDOSIS—RIDOLF ET AL.

as two had only mild and two moderate myocardial involvement. It is possible, however, that in patients with severe cardiac amyloidosis such infiltration of the atrium and ventricles might produce internodal or peripheral conduction blocks.

The high frequency of conduction abnormalities in our group 1 has been recognized by others [1-6]. Detailed studies of pathologic examination of conduction system in amyloid, however, are few and have reached conflicting conclusions. James [16] described five patients with severe cardiac amyloid and extensive deposits of amyloid within the conduction systems: he noted greater involvement of the sinus rather than the atrioventricular node, and corresponding electrocardiographic changes. Davies [18], in a detailed study of three patients with cardiac amyloidosis and rhythm disturbances, however, failed to find amyloid deposits to fully account for the electrocardiographic abnormalities, leading him to conclude that fibrous scarring of the myocardium, possibly related to amyloid vessel involvement, was the factor that caused conduction and rhythm abnormalities in these patients.

Our 23 patients in group 1 represent a wide spectrum of amyloid heart disease ranging from mild to severe, and patients similar to those described by both James and Davies may be found within this spectrum. In three patients extensive amyloid did involve the specialized conduction system, but the findings in the other 20 patients seem to indicate that the high incidence of rhythm and conduction disturbances in the majority of patients with cardiac amyloidosis are not a direct manifestation of amyloid within the specialized conduction tissue of the heart. Fibrosis of the sinus node, and idiopathic atrophy and fibrosis of the atrioventricular conduction network more frequently accounted for conduction disturbances than did amyloid in our patients. Whether the fibrosis is related to amyloid elsewhere in the heart or to some other cause is as yet uncertain.

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July 10, 2001

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Re; Annstrong v. Celerio

Sir,

I have been asked to review the medical records and other related documents concerning the anesthesia care Nancy Armstrong received on August 7, 1999. I was asked to determine if the standard of care was breached during her anesthetic on 8/7/99. On that date, the patient was admitted to Amherst Hospital to have a hysterectomy for pelvic pain.

Her anesthesiologist was Dr. Briccio Celerio. Preoperatively, Dr. Celerio was faced with a patient who had an abnormal EKG, a chest X-ray with positive findings, a history of difficulty breathing with exertion, and leg swelling. The patient denied a history of cardiac disease or heart problems, and had been cleared for surgery by her primary care physician. The preoperative chest examination revealed decreased breath sounds in the right base but was otherwise unremarkable. Based on the data that Dr. Celerio was able to elicit from the patient and her surgeon, he decided to proceed with a general anesthetic. Dr. Celerio relied on his own judgment and his assessment of the patient in conjunction with the available data at the time.

It is my opinion that Dr. Celerio did not deviate from the standard of care in his preoperative assessment and that he had a right to rely on the referring physicians to give him accurate objective medical findings and data. Dr. Celerio also had a right to rely on his patient (to the best of her ability) to accurately outline her medical conditions and participate in his assessment in order for him to administer an anesthetic that would fit her individual needs.

↳ could he have used a different anesthetic what?

RECEIVED

X-ray report, X-ray, EKG's
An abnormal EKG and an abnormal chest X-ray are not absolute contraindications to receiving an anesthetic, particularly if the anesthesiologist is lead to believe that the patient has been optimized medically for the procedure. *Relative*

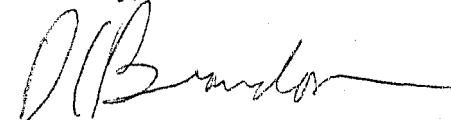
How?
Given the preoperative data available and Dr. Celerio's physical exam, the patient was given a safe induction of general anesthesia. Shortly after the patient was asleep, she became hypotensive For unknown reasons and eventually arrested and died. *By Dr. Bartolica*

The patient died from a sudden, unpredictable, and unavoidable cardiac collapse. This was caused by amyloidosis in the heart. This disease was undetected at the time but became rather apparent on her post mortem examination. The patient's heart was in such a condition that it could not be resuscitated when stressed because cardiac muscle and the heart's electrical conductance system do not respond normally when there is a gross infiltration of amyloid deposits in the tissues. There is no cure for amyloidosis. *would have avoided if no anesthetic administered.*

Do it Search?
The patient's death can not be attributed to her anesthetic. She is quite simply the victim of sudden death and even though the death was untimely and unfortunate, there is no evidence, in the records, that a deviation in the standard of care for anesthesiologists caused this mishap.

My opinions are based on my training, education, research, and experience. If more documents become available, I will be happy to read them and reserve the right to alter my opinions accordingly.

Sincerely,



David C. Brandon, M.D.