Thursday, 10 March 2011

(9.30 am)

THE CHAIRMAN: Good morning.

MS DUNLOP: Good morning. Today we continue our investigation of the deaths of four individuals and today's proceedings are devoted to looking at the circumstances of Mrs Eileen O'Hara.

My first witness today is Mrs O'Hara's daughter, Mrs Roseleen Kennedy.

MRS ROSELEEN KENNEDY (sworn)

Questions by MS DUNLOP

THE CHAIRMAN: If you find the proceedings distressing, just have a word with Margaret and we will accommodate you. You might not think they are going to be but sometimes it works that way, but we will try and look after you as best we can.

A. Thank you.

THE CHAIRMAN: Ms Dunlop?

MS DUNLOP: Mrs Kennedy, you have provided a statement to the Inquiry.

A. Yes.

Q. And it would be a good idea if we had that in front of us. Mrs Kennedy's statement has appeared very quickly on the screen. Can we see that that's your statement?

A. Yes.

THE CHAIRMAN: What is its number?
MS DUNLOP: [WIT0030420]. Mrs Kennedy, back to your statement. I just want to go through it and I'm not going to ask you to read it out or anything like that but I'm just going to ask you one or two questions as we go along. Is that all right?
A. That's fine.
Q. So we see from the first paragraph that you are the daughter of Eileen O'Hara, who was born on 9 October 1938 and she died on 7 May 2003. You say you have three siblings. Are you the oldest in the family?
A. Yes, I'm the oldest.
Q. I think you have two sisters and a brother. Is that right?
A. Two sisters and a brother.
Q. You say in paragraph 2 that the first surgery you remember your mother having was a hysterectomy at Stobhill in 1980?
A. Yes.
Q. I think we will see from the records it was November 1979.
A. I knew I was 14. I knew it was either side of that.
Q. You don't know about any blood transfusion then?
A. No.
Q. But we will come on to that.

You then say that your mum worked as an orderly at Stobhill. Of course she had a lot of medical treatment at Stobhill too?

A. We actually lived quite close to Stobhill.

Q. And in the north of Glasgow there is a lot of loyalty to Stobhill. Is that fair comment?

A. Yes.

Q. So your mum probably enjoyed her work there as well, did she?

A. Yes.

Q. Then you tell us in paragraph 4 that your mum had heart surgery in 1985 at Glasgow Royal Infirmary. You say that she had a heart valve replacement and your mother was given a mitral valve from a pig. In fact, she had had rheumatic fever as a child and that had caused some problems with her heart in later life. Is that correct?

A. Yes, I knew all about that and she had already had the valve widened in the 60s.

Q. And again, you say you don't know if she was given blood or blood products during or after this surgery and we will come on to this too. On the following page you say:

"Soon after my mother gave up work she became unwell. I don't think she gave up work due to poor health."

I maybe wondered if she retired at 60?

A. She was 60 that year, so I think that would be why.

Q. She went to her GP at Springburn Health Centre and the doctor asked her on a number of occasions if she was drinking, and you say that your mother very rarely drank and each time she attended the GP she was asked the same thing which she found a bit upsetting. And again, we are going to come on to look at that and it may comfort you when you see that when the GP actually wrote to the hospital she said that your mother didn't drink.

So in terms of the impression people had, I don't think there is any question of conveying the wrong impression on that. Then she went back to the Royal Infirmary and saw the heart surgeon who had performed the mitral valve operation in 1985; I think it would have been 1990 or 1991, and in fact we know it was 1991 she had the valve replaced again. This time I think it was a metal valve rather than a pig valve.

A. Yes.

Q. You say that yourself at paragraph 7; the mitral valve was replaced by a metal one and there was blood transfusion at that time. Then your mum was able to look after your daughter until June 1995 but by that time she wasn't really well enough to carry on.

A. No.

Q. Doing the childcare for her granddaughter and then she went back to hospital and had some more tests.

I should have said that you actually remember that one of the issues they wanted to check was lymphoma?

A. Yes, I think because that's something that we had heard of and it was something totally new. It was always just heart-related things my mum went to hospital for. It seemed quite a departure.

Q. If I can say so, Mrs Kennedy, you have a very clear recollection of things which it is easy to spot in the medical records. A good tie-up there. Then you remember that she was referred to a gastroenterologist. You say his name was possibly Dr Fraser. Might it have been Dr Forrest?

A. Probably, I can't remember.

Q. She was admitted to Stobhill in July 1995 for liver biopsy and a bone marrow test for lymphoma. Your sister, Annette, who I think is here today, was working in Stobhill at the time as a nurse and found out from your mum's doctor that your mum had cirrhosis of the liver and she had Hepatitis C, and even then the doctor was indicating that she had probably got the Hepatitis C from a blood transfusion.

A. Yes.

Q. You remember all of that, I expect?

A. I do, I remember because in a strange way we were relieved because it wasn't lymphoma. So it was kind of -- a diagnosis of Hepatitis C, because we didn't really know what it was, was a sort of relief at the time.

Q. But you go on to say that as a family you found that there wasn't really very much information given to you about the virus. That was your feeling then, was it?

A. Yes, it was very much, "You have got Hepatitis C but you have actually got cirrhosis of the liver". So that's really what we have to -- that's a lot more serious.

Q. You say she was not offered any support or further information, not even a leaflet.

A. No, nothing.

Q. And nobody made contact with the family members to suggest -- I'm looking at the bottom of page 3 -- you should be tested for Hepatitis C, not even your father or your sister who was also living at home. Then after your mother's death you approached your own GP to ask for a Hepatitis C test. Did you actually have one?

A. Yes.

Q. I take it it was negative?

A. Negative, yes.

Q. Then you tell us -- this is paragraph 10 -- that your mother asked for possible treatment for Hepatitis C at

every medical appointment she attended. Every time she was told there was no treatment they could offer as she already had cirrhosis. Did you discuss that with her or did she tell you what she had been told at the hospital?

A. Yes, because, I think when you have been attending hospitals, you do ask about treatments because it has been your experience that usually something can be done, you know, when you have had heart problems. So we just wondered, and I know my mum wondered, if just anything could be done because she was very used to following doctor's instructions and she was very faithful to doctor's instructions, and I think she just thought if there was something she could do things might get a wee bit better.

Q. You see at the end of paragraph 10 that your mother was told that blood had been taken from American prisoners and that this may have been a source of Hepatitis C?

A. Yes, she was certainly told that and it came as a wee bit of a shock to us. I don't know which doctor would have told her that, I really don't. It would have been at the hospital, it wouldn't have been a GP. I don't know.

Q. If it is your intention to continue to follow the proceedings of the Inquiry after today --

A. Yes.

Q. -- you will hear evidence that, certainly in Scotland, a small proportion of donated blood came from prisoners but they were prisoners in prisons in Scotland, and you will also hear evidence that people with haemophilia in Scotland did receive some treatment with blood product concentrates which came from America but the Inquiry hasn't uncovered any evidence of people in Scotland receiving blood as blood from American prisoners. So as I say, if you intend to follow what goes on, you will hear more about this in due course.

Then you say that the doctor that your sister Annette had spoken to suggested that your mum -- I take it that it was your mum who phoned the blood transfusion service. Is that right?

A. No, it was my sister.

Q. It was Annette?

A. It was my sister.

Q. And was told that there was nothing that could be done as your mother had been given the blood in good faith. Also, as your mother had cirrhosis, there was no treatment that would be effective. I think that was about 1995?

A. Yes.

Q. I just wanted at this point, Mrs Kennedy, to ask you to have a look at a document, which is [LAI0010020].

Just so that you understand, Mrs Kennedy, that this actually comes from the medical records of a different patient but you will see that it is headed up "Transfusion transmitted Hepatitis C guidelines for counselling patients." It is dated April 1995.

I just wanted to let you have a little look at this. The introduction that sets the background for this is that:

"Recipients of blood or blood components from donors now known to be carriers of Hepatitis C virus are being traced with a view to providing counselling, testing and specialist referral as appropriate."

So to express it in other words, really, what's going on is that when testing of donated blood was introduced to find Hepatitis C virus in 1991, blood donors were found who were carriers of the virus and it was then possible to look back at donations that those blood donors had given and trace the recipients of the blood, and contact them and test them to see if they had been given Hepatitis C. Does that make sense to you?

A. Yes.

Q. So this is the background to these guidelines and it is pretty self-explanatory in paragraph 2 that what the guidelines are for is for use in counselling patients identified through the look-back exercise as

Hepatitis C-positive. They give some background to the exercise, explain the implications of being found to be anti-HCV positive, provide information on ways of avoiding infecting others, give advice as to the appropriate steps to be taken and notes about the likely management at specialist centres, about which patients are likely to ask.

Can we just perhaps move slowly through this document. If we go a little bit further down the page, you will see the point I have made about the screening -- this is paragraph 6 -- for antibodies to Hepatitis C from 1 September 1991. Move to the next page:

"Estimated up to 3,000 recipients will be traced as part of the look-back exercise. Chronic hepatitis is often asymptomatic. The diagnosis of chronic Hepatitis C is likely to be an unwelcome surprise for most patients."

Then it says, paragraph 8:

"Patients should be counselled on the implications of the test result and referred for a specialist opinion."

Then, "Implications of a positive test", "Modes of transmission". Then can we go to the next page. You see there is a section headed "Avoiding infecting

others"?

A. Hm-mm.

Q. So the person who is carrying out the counselling is able to cover that as a topic in case people are concerned that they might infect their family members. So we see advice, for example, such as that in paragraph 14:

"Tooth brushes and razors must not be shared. Cuts or skin lesions should be covered with waterproof dressings."

And so on:

"Further assessment and follow-up:

"All anti-HCV positive patients should be referred to a specialist with an interest in the condition for further assessment. This will usually involve a period of observation and, in most cases, a liver biopsy. Patients ... may be offered treatment with interferon."

Then the next page. Then notes about management at specialist centres:

"Further counselling will be given at specialist centres. Treatment options can be discussed in more detail."

Then there are some statistics about the prospects of successful treatment in paragraph 23:

"Although 40 to 80 per cent of patients respond

initially to interferon with normalisation of transaminase values ..."

I gather that's liver enzymes, so that people's liver enzymes can return to normal:

"... only 50 per cent of the responders, that is 20 to 40 per cent of those treated, have a sustained response. Response rates depend on the particular genotype of Hepatitis C."

Then the next page, it says:

"Patients were kept under review."

Then:

"Other treatment approaches are under development, including the combination of interferon with other antiviral agents."

I take it that you are not aware of your mother ever being counselled along these lines?

A. No.

Q. And she didn't receive information along the lines that we see described in these guidelines?

A. No.

Q. Right. Of course, we understand that your mother was never traced as part of a look-back exercise. So it wasn't that someone was able to identify the donor and then find your mother and follow those guidelines, but nonetheless, as a person who was thought to have

received their infection from blood transfusion, she would have been covered by the same situation as is described in the guidelines. Do you understand that?

A. Yes.

Q. So as it turned out, because of the way the investigation was carried out, it really didn't reach people like your mother, who were not identified formally as part of a look-back exercise. Does that give you a bit of background to what did or didn't happen?

A. Yes.

Q. Right. To go back to your statement, we go back to page 4, paragraph 12. You say that your mother always coped well with ill-health and always did as doctors said and advised:

"But she found the Hepatitis C very difficult and she hated having "Hep C risk" stamped on the front of her medical notes. She found that embarrassing."

A. I think she would rather it was inside because if you are in a hospital where a lot of people are neighbours and a lot of people that you have worked with and they are seeing that every day, I think she did just find it embarrassing, yes.

Q. Then you tell us in paragraph 13 that your mum went to the warfarin clinic. Basically she saw a cardiologist

pretty regularly. Is that right?

A. Yes.

Q. Is that Dr Dunn?

A. Yes, Dr Dunn.

Q. And she went to the diabetic clinic as well?

A. Yes.

Q. Do you remember that she was diagnosed with diabetes around 1990?

A. First she just took tablets but later on she became insulin dependent.

Q. Do you remember that it was Dr McLaren she saw?

A. I couldn't say the name of the doctor.

Q. You say:

"She was never referred to any specialist in relation to her Hepatitis C and was not referred to a liver consultant."

Again, if you are able to stay you will hear some more evidence about what happened. Then she also went to her GP, and you say that some information and warnings were able to be given to the family as a result of the efforts of you and your sister?

A. I think my sister was working in Stobhill at the time and then she moved on and she found what you should be doing and what you shouldn't be doing through her work.

Q. Then you say that in your view she asked every medical

person she saw about treatment for Hepatitis C and she was always told she wasn't suitable?

A. Yes.

Q. Do you think it was explained to her more than that? Was there some explanation as to why she wasn't suitable?

A. I think the explanation is that she already had cirrhosis of the liver, and if you already have cirrhosis of the liver, then there is -- you can't really do anything. That's the way she presented it to me. That was the reason why. There was nothing that could be done.

Q. Did you know, either from your own knowledge or from something your sister told you, about the low success rates of treatment that we saw from the guidelines?

A. Yes, I think we did. I think we did think if you have got cirrhosis of the liver, then it really maybe -- it possibly is too late.

Q. You say that from 1995 your mum's symptoms worsened. She was tired and weak and looked pale with a thin face, but you say she was never depressed and she still managed to walk around the town.

A. Yes.

Q. She looks to have been a pretty stoical individual. Is that correct?

A. Yes.
Q. And then you describe a difficult time for you as a family in 2002 and then perhaps your mother being a bit more frail after your father's death. Is that a reasonable way of putting it?
A. Absolutely.
Q. And then your brother -- is he the baby of the family?
A. Yes, he is the youngest.
Q. So three girls and then a boy?
A. Yes.
Q. And your brother was getting married in April 2003 and your mum wanted to come to the hen night but she became very unwell in March. So presumably she wasn't able to come to the hen night?
A. No, she was in hospital.
Q. And she went into Stobhill and it was discovered that she had a problem with gallstones?
A. Yes.
Q. I think, at that stage --
A. Pancreatitis.
Q. And then there were, I think, three attempts to do something about the gallstones.
A. Yes.
Q. And then your mum really became more and more ill and she was in a high dependency unit and then, in fact,

finally she was in the coronary care unit.

A. Yes.

Q. You say you can't remember the name of the doctor whose care she was under. If I tell you that it was a Mr Kevin Robertson who looked after her when she had her pancreatitis and tried to do something about the gallstones, and then in the coronary care unit there was a consultant, Dr Goodfield, and a registrar, Dr Petrie.

A. Yes.

Q. Do these names sort of ring a bell?

A. Yes, when you hear them.

Q. And then you talk about what was and was not on the death certificate, and then you also think there seemed to have been very few precautions about cross contamination. Is that your feeling?

A. I just feel that -- considering that Hepatitis C was well-known by 2003.

Q. You tell us that you have not qualified for the Skipton fund payments because of your mum's date of death?

A. Yes.

Q. Thank you very much, Mrs Kennedy. That's all I'm going to ask you.

THE CHAIRMAN: Mr Di Rollo, do you have any questions that you want to put to Mrs Kennedy?

MR DI ROLLO: No, thank you.

THE CHAIRMAN: Mr Anderson?
MR ANDERSON: No, thank you, sir.
MR SHELDON: No, thank you, sir.
THE CHAIRMAN: Mrs Kennedy, thank you very much for coming.
A. Thank you.
MS DUNLOP: Sir, there is some evidence, if I can call it "evidence", although it is not spoken to by a witness. I think it would be simpler if I simply narrated it.

It is the results of the research that the inquiry team have done on the question of the various blood transfusions that Mrs O'Hara received, and it has been quite a significant piece of detective work from the medical records.

It would, I think, be useful if we looked at the medical records and saw what evidence there is about the transfusions given at the different points in Mrs O'Hara's life and I would propose, since we have a little bit of time, to do that now, if I may.
THE CHAIRMAN: It seems a sensible approach. It is purely factual information. Take it slowly so that we can get the picture, Ms Dunlop. Do remember that there are members of the public here who won't be used to taking great lists of information in. So if there is a point at which you can pause and explain, that might help us too.

MS DUNLOP: Dr Mutimer, who is going to be the next witness, has organised his report, not so much chronologically but under different headings in relation to the different surgery that Mrs O'Hara had, and the first thing he has done is to look at cardiac surgery. So I have copied his approach and I propose to start with cardiac surgery and look at such information as those behind me have been able to discover from the records about that, and there is quite a bit.

If we look firstly at [OHA0012627], we can see that that's a letter from Stobhill to, one assumes, Mrs O'Hara's GP, and it is dated 4 February 1963. Mrs O'Hara has been in hospital with pure mitral stenosis and I understand from my own research -- and Professor James will correct me if I'm wrong, but stenosis is really narrowing. So the mitral valve was narrowed and valvotomy was carried out by Mr W H Bain. We have a cardiologist coming and I do intend to ask him a bit more about it, but in simple terms I understand that to have been an attempt to widen the valve again.

So that shows us some surgery happening in 1963.

THE CHAIRMAN: Is that what Mrs Kennedy was referring to, do you think?

MS DUNLOP: Mrs Kennedy mentioned it, yes. It is the widening of the valve.

THE CHAIRMAN: The original one?

MS DUNLOP: Yes. Can we then look at [OHA0010899]. This is obviously a piece of paper. It is information from an obstetric unit and it is dated 1 November 1971, and if we look on the right-hand side at the bottom, there is a question on the form:

"Previous blood transfusion."

And someone has deleted "No", so obviously by November 1971, Mrs O'Hara has had a blood transfusion and it would suggest that that must have been the valvotomy. I think Dr Mutimer will obviously come on to this, but Dr Mutimer says it is possible that there was a blood transfusion but I suggest that this makes it look really quite likely that there was a blood transfusion in association with the valvotomy.

Then we move to 1985, insofar as cardiac surgery is concerned, and look at [OHA0011303]. This is a blood bank prescription sheet because we can see it is headed up "Blood bank", and then not quite half way down the form it says:

"Blood transfusion prescription."

And it is dated 5 June 1985. You see that Mrs O'Hara's blood group is shown there, B negative, and that someone has prescribed five packs of concentrated red cells and batch numbers are given. In fact, all

five of these batches are signed as having been given, given and checked. The only other thing to note about it perhaps is the date of 5 June. It seems to suggest that the prescription is work that was carried out in advance because the operation wasn't until 7 June, but perhaps that wasn't unusual to organise the blood in advance, and I accept this is speculation but particularly where perhaps the blood group is more unusual, B negative, one might take that step in advance.

THE CHAIRMAN: Professor James suggests that this is for the bypass machine to be primed.

MS DUNLOP: I see, thank you.

If we then look at 1426, this looks, although the description of it is cut off at the top, to be a chart and it looks to be the beginning of an IV fluid chart. It is dated 7 June 1985. We can see that it seems to start at 2.45 in the afternoon. If we then move to [OHA0011425], this seems to be a continuation of [OHA0011426] and if we look, we can identify, not always in the same columns, but in the concentrated red cell column there are three batch numbers and then in the bottle or pack number column, there are two batch numbers. But in fact, although the writing is not 100 per cent easy to make out, it does look broadly as

though those five numbers tally up with the batch numbers that were shown on the original prescription sheet.

So that seems to be the use of all five of the packs and that would be supported by the fact that the administration column was signed in relation to each batch on the previous page we looked at.

So in summary, it looks as though there were five packs of red cells given to Mrs O'Hara in association with, if I can just call it, the pig valve operation in 1985.

If we look at [OHA0011428], we can see that there was also plasma shown there. That's item D. That's actually 6 June, with some plasma given intravenously. There is also something called "Hartman's" but I gather that's not a human product, as it were, that's a synthetic product.

That deals with the position up to 1985, and then Dr Mutimer moves to discuss obstetrics and gynaecology. So I would do that too. If we look at [OHA0010881], this is from 1972, March 1972, and from the records, this would appear to be associated with the birth of Mrs Kennedy's brother, the baby of the family, who was delivered by Caesarean section, and we can see that there were two bottles of blood cross-matched and there

are numbers for those batches given there. The next in this sequence is [OHA0010430], and this is actually the anaesthetic chart from the Caesarean section. You can see "Caesarean section" is written at the top. 31/3/72. And if we look at IV fluids on the right-hand side, there is a heading "IV fluids", and in handwriting it says:

"B negative blood."

And someone has copied down one of the batch numbers. So it looks as though in fact only one of the two batch numbers that we saw on the previous sheet may have been used, but a transfusion nonetheless.

Then if we go to 1979, [OHA0010076].

THE CHAIRMAN: Could we go back to that previous page, just for a moment, please?

MS DUNLOP: The anaesthetic record or the one before?

THE CHAIRMAN: The IV fluids.

MS DUNLOP: 0881.

THE CHAIRMAN: Has anyone been able to decipher what the other IV fluids are? Dextrose, that's straightforward; it's the other two.

MS DUNLOP: Dextrose, yes. I don't know what A and C are.

THE CHAIRMAN: Yes. It is the "R" that has attracted my attention, needless to say, and the fact that they add up to 500 millilitres, but no one knows.

MS DUNLOP: I think if anyone could guess as what it might be it would be Professor James.

THE CHAIRMAN: He can't.

MS DUNLOP: But maybe he can think about it and see if anything comes to mind.

PROFESSOR JAMES: Do you have the nursing records of that operation because if you do, then they would perhaps give the same information in a different way and the nurses usually --

MS DUNLOP: They will be there somewhere but I don't have it today.

PROFESSOR JAMES: In that case, conceivably afterwards then, that can be found and shown to Lord Penrose.

MS DUNLOP: The exercise that has been carried out is to attempt to look at the haematology records and see what can be ascertained by way of blood. I freely accept we didn't chart every type of fluid that Mrs O'Hara received.

THE CHAIRMAN: The contrast perhaps makes it unlikely that this is blood related.

MS DUNLOP: I think a view was taken that it wouldn't be blood. I think once we saw the entry relating to blood, that was the trail we followed.

THE CHAIRMAN: Yes. Gentlemen, if anyone has got any concern about it, it has been flagged up and you can

follow it if you think it is appropriate.

MS DUNLOP: I think we were looking at 0076, which is November 1979. As Mrs Kennedy said, that was the time when Mrs O'Hara underwent a hysterectomy and we can see that the operation performed there is vaginal hysterectomy. And there, IV fluids during operation, still towards the top of the form on the right-hand side, maybe it is the same "R". It does seem to say:

"RL 500 mls."

PROFESSOR JAMES: It is "right line". It means she probably had drips in both arms. Probably it is "right line", so the "mls" there will be of dextrose or normal saline; they won't be of blood, they would have been recorded as blood.

MS DUNLOP: Thank you. But underneath that is written:

"One unit whole blood, one unit pack cells."

Still in November 1979, if we look at [OHA0010738], we can see that, again in handwriting, someone has filled in the blood pack numbers. That's towards the right of the form about in the middle from top to bottom. Blood pack numbers, and there are two numbers there and what looks like "C/C" which presumably means concentrated cells.

THE CHAIRMAN: Concentrated cells is circled down below.

MS DUNLOP: Oh, yes, so it is. Concentrated cells.

Equipped with all that information, further enquiries were made through SNBTS, and I must apologise because I don't actually have the court book number of the letter giving the response. Actually, I think, on reflection, sir, it would be a bit difficult to do it without the numbers. It would be a lot slower without the numbers. I need to get the numbers and it might be more convenient to have a short break at the moment to let Dr Mutimer's connection be established and then we can return and speak to Dr Mutimer and I will resume the story in relation to these blood transfusions at a later point today if that's convenient.

THE CHAIRMAN: Yes, I don't think there is any problem about that.

(10.17 am)

(Short break)

(10.30 am)

DR DAVID MUTIMER (continued)

THE CHAIRMAN: Good morning, Dr Mutimer.

A. Good morning.

Questions by MS DUNLOP

MS DUNLOP: Good morning, Dr Mutimer. This is the third day in a row that we have taken evidence from you. So you are obviously now known to the Inquiry team but for anybody who is with us, who has not been here yesterday

or the day before, I should establish that you are a liver specialist, a consultant liver specialist in Birmingham. Is that correct?

A. That's correct.

Q. And you work in one of the seven transplant units in Britain?

A. Yes.

Q. -- I have now forgotten which queen it is; the Queen Elizabeth Hospital?

A. It is Queen Elizabeth, the Queen Mother.

Q. Thank you. Now, you have been asked to prepare a report on Mrs Eileen O'Hara. Is that correct?

A. That's correct.

Q. And do you have that report in front of you?

A. Yes, I do.

Q. The reference for that report is actually [BLA0012298]. It should be OHA and I think that will be changed but it has gone in as a BLA report. And we have it on our screens too.

Dr Mutimer, we have already looked at the subject matter which you cover on your first page, which is Mrs O'Hara's medical history, more in relation to her other problems. So we have already looked at cardiac surgery and obstetric and gynaecological surgery, and we have identified a blood transfusion at some point before

1971, which would appear, probably, to be associated with the valvotomy. Transfusions in June 1985, and indeed there is also a transfusion in 1991 but I think perhaps by the end of your evidence, we will see that that may not be so important. We have also identified transfusions in 1972 with the Caesarean section and 1979, the hysterectomy, probably much as you suspected but I think you maybe didn't have all the older notes that are available to us.

So if we could turn to page 2 of your report, and perhaps before we go any further, just to look at a page from the records, which is 2543.

THE CHAIRMAN: The prefixes please?

MS DUNLOP: Sorry, all of these, sir, are OHA. [OHA0012543]. Simply that there has been mention of diabetes and to locate that historically, we can see that that's a GP referral dated 7 March 1990. So the GP is referring Mrs O'Hara to Stobhill and she has recently been found to be suffering from diabetes. Just so that we know when that happened.

Go next to [OHA0011178]. I should explain, sir that, Dr Mutimer has referred to abnormal biochemical liver function tests in February 1984 but it is not necessary to go to the entry because Dr Mutimer has quoted it exactly in his report, what the measurements

at that time were, and then he said the general practitioner may have pursued this problem in 1990, and it looks as though [OHA0011178] is that pursuit. On 29 May 1990, this is the general practitioner at the health centre referring Mrs O'Hara and saying that her liver function tests were deranged. We can see the measurements there, alkaline phosphatase. I'm not sure of the next one. Perhaps the aspartase is the middle one. It is not very easy to make out the handwriting at 91 and an ALT at 116, although there has been some reduction. She doesn't take any alcohol, it says. That's May 1990.

If we then look at [OHA0012538], this is the Royal Infirmary and this letter comes from a lecturer in cardiac surgery saying that Mrs O'Hara has been seen and that there are mildly deranged liver function tests. The doctor is saying he couldn't feel any hepatic enlargement. He suggests that if a repeat set of liver function tests still continues to show mild derangement, either an ultrasound of her liver or a gastroenterologist opinion might be valuable.

Is that reasonable advice, Dr Mutimer?

A. Yes, that's excellent advice.

Q. Can we then look at [OHA0012536]. We are now in September 1990. It is not a terribly good copy but

it does look as though the general practitioner is following the suggestion of seeking gastroenterological opinion. It is headed up "Gastroenterology", and the GP is referring in the letter to "mild, persistent derangement of liver function tests". The GP tells the other doctor that Mrs O'Hara was taking a moderate degree of alcohol only to begin with, however, abstaining completely from alcohol, the liver function tests are still deranged.

If we look at [OHA0012535], if we go to the page before, November 1990, the report is going back to the GP from the gastroenterologist, and in a nutshell this letter seems to be saying that the gastroenterologist doesn't think that the liver function tests can be explained by cardiac problems. Is that correct? I think you really get that from the beginning of the third paragraph.

A. Yes, that's what is stated.

Q. In fact, we can see the way Dr Morris's mind was working when we read that because we can see that he or she has organised testing for Hepatitis C. Do you see this in the third paragraph:

"I was unsure whether she had received blood transfusion with her various operations but I suppose this remains a possibility, I have therefore checked

hepatitis screens."

Can you interpret for us, please, the end of the preceding paragraph. He or she says:

"Abdominal examination, one finger breadth palpable hepar with possible spleen of tip palpable."

Slightly delphic?

A. I think the important observation there is that the doctor feels that the spleen may be palpable. In the setting of liver disease that would suggest there was significant liver damage; the spleen being palpable in a patient with liver disease often implies the presence of cirrhosis.

Q. What's the "one finger breadth palpable hepar"?

A. I think he has said that he can just feel the edge of the liver but that's not very useful. That's not clearly abnormal. The abnormality is the palpable tip of the spleen.

Q. I see, thank you. Can we look next at [OHA0011272]. I did want to emphasise, for future reference, that this investigation is all being carried out in November 1990 in the context of abnormal liver function tests and abnormal findings on examination.

If we then look at [OHA0011272], we can see the result of the Hepatitis C test is dated 5 November 1990 and we can see hepatitis B, A and C were all tested for

and all three results were negative. Can you see that in front of you, Dr Mutimer?

A. Yes, I can see that.

Q. That obviously had a effect on the approach that was taken at that time and if we go back to [OHA0011168], we can see that in December 1990, the gastroenterologists really sent Mrs O'Hara back to the cardiologists. You say in your report that:

"The negative Hepatitis C antibody test is a surprising result."

A. Yes.

Q. Can you just explain for us, please, why you find that surprising?

A. Well, in retrospect we know that Hepatitis C infection was present, but we don't know the exact date of the infection. I suspect that the infection was already established and caused cirrhosis already at this stage. This was a very early blood test, November 1990 was very soon after discovery of the virus and this would probably have been the very first commercial assay available. The assays that were developed at that stage were quite sensitive and that was important because they were principally used in transfusion medicine and the purpose was not to miss any cases of Hepatitis C in the blood donor pool. So the problem was not so much

sensitivity of those assays, it was specificity. We would see frequently false positive results, but false negative results were not that common. I think in this case, it is almost certainly a false negative result.

Q. Dr Mutimer, we are actually going to hear some evidence tomorrow about the sensitivity of the early tests in relation to different genotypes. Is that something that you have researched or are you happy --

A. If you have got an expert coming tomorrow, you should wait for that.

Q. Perhaps we can hold ourselves in suspense and hear how the different genotypes fared when subjected to the early tests, but in general terms if I say to you that there was a difference between the genotypes in terms of how likely the early tests were to pick them up, that doesn't surprise you, I take it, does it?

A. No, no, I recall that.

Q. Of course, Mrs O'Hara's hepatitis was actually never genotyped, at least not that we have been able to ascertain. So that, I am afraid, is a bit of a loose end but that may be an explanation. But your considered view --

A. Everything is telling us that Hepatitis C was present, it is just her particular blood result which is hard to reconcile with all of the other clinical laboratory

data.

Q. Yes, but perhaps no surprise that at the time the gastroenterologist took it at face value and sent Mrs O'Hara back to the cardiologists. Is that reasonable?

A. I think she was needing cardiology anyway because in late 1990 her heart valve was starting to give problems. I'm not sure that she was sent back to them to try and sort out the abnormal liver function but it certainly would have bluffed the gastroenterologists. They probably thought that the Hep C test would come back positive. They still had a patient with abnormal liver function and a patient who probably had significant liver disease. So it should probably have remained in their domain.

THE CHAIRMAN: There is a manuscript note at the bottom of that letter. Is it of any significance?

MS DUNLOP: I think, sir, that comes later.

THE CHAIRMAN: That comes later, right.

A. Do you want me to answer the question?

THE CHAIRMAN: Not if it is going to be dealt with by Ms Dunlop.

MS DUNLOP: May I answer that? Having studied this, it looks as though someone wrote this later when they went back through the notes for a particular reason. Can

I say all will become if not clear, slightly clearer when we hear from some of the other witnesses, if I may, sir.

THE CHAIRMAN: I'm not waiting with bated breath.

MS DUNLOP: Just to pick up your point, Dr Mutimer, that Mrs O'Hara was in need of further cardiological input, we can see that from [OHA00012533], and really the important part is the last bit, I take it, is it, doctor:

"She needs a mitral valve re-replacement."

A. Okay, I don't have that page.

Q. All right. What do you have, if I can ask?

A. I was looking at the previous -- I have got now a letter to Dr Lorimer.

Q. Yes, a cardiologist at Glasgow Royal Infirmary?

A. Dated 18 January.

Q. Yes. I was just suggesting to you that the important part is the last sentence.

A. Yes, she had come to need another replacement.

Q. And we can ask the cardiologist about that but presumably that's urgent?

A. You will have to ask the cardiologist.

Q. [OHA0011144]

A. I'll tell you when it comes up.

Q. Right.

A. Glasgow Royal Infirmary letterhead?
Q. Yes.
A. Yes. Operation notes.
Q. Yes. We see Professor Lorimer is shown at the top --
A. Yes.
Q. -- and it tells us in fact that this has been, I think, an investigation; it has been cardiac catheterisation. So not the full valve replacement but an investigation prior to that. Is that correct?
A. Yes.
Q. And we can see that there is a mention in this of liver enlargement. Yes, there we are:

"On examination ..."

The last sentence in that section says:

"... she had 3 centimetres ..."

I'm not sure I get the emphasis correct when I say this but hepatomegaly. How would you say it, doctor?
A. Hepatomegaly.
Q. Can you interpret that for us, please?
A. I'm just trying to locate it, I'm sorry. I have page 1 of that document, a cardiac catheterisation.
Q. Yes, it is the section headed "On examination ..."?
A. Yes.
Q. The last sentence. I just wondered if you could explain that, please.

A. Yes, so again this 3 centimetres hepatomegaly usually means that the edge of the liver is palpable 3 centimetres below the ribs on that right-hand side. So a normal liver would be not palpable or just palpable and the greater the measurement of hepatomegaly, the more likely it is that this is an abnormal liver, and the abnormality here could be congestion of the liver because of the cardiac problem or it could represent intrinsic liver disease due to the inflammation, the Hepatitis C.

Q. What's the meaning of the 3 centimetres bit?

A. That's just trying to provide an objective measurement as to how enlarged the liver is. So the greater that figure, the more likely it is that you really have got an abnormal liver. It doesn't tell you what the cause of the abnormality is. You recall the previous description from Dr Morris, I think it was, the gastro registrar said 1 centimetre. So it may be that this is a liver which has gone from being palpable 1 centimetre below the ribs to 3 centimetres. In other words, there appears to be a progressive process with progressive enlargement of the liver.

Q. Right. So the 3 centimetres is really a rough estimate of the abnormal increase in size of the liver. Is that right?

A. Yes, it is; it is rough, though.
Q. Do doctors use finger breadth as a surrogate for a centimetre? Is that how it is done?
A. Sometimes they do, so "3 finger breadths hepatomegaly" would be a common description. Most fingers are about 1 centimetre in diameter.
Q. Next can we look at [OHA0012502]. We can see that this is Dr McLaren at the diabetic clinic in Stobhill in 1994, and you cover this in your report, but Dr McLaren is writing firstly about her diabetes but also he says -- and this is the end of the second paragraph:

"I was rather surprised to find that she has hepatosplenomegaly."

So an enlarged liver and an enlarged spleen?
A. Yes.
Q. I think we get the plan if we turn the page, please. This is the last paragraph. His preliminary view is that this is secondary to the mitral valve replacement. He has written to the cardiac surgeon at the Royal about this saying:

"If it has previously been noted it is unlikely to be of any significance. If it is new I think she would require at least an ultrasound."

Is this a reasonable plan, Dr Mutimer?
A. Yes, I think in 1994 it is two or three years after she

had a successful valve replacement? So I would be surprised if the cardiologist would accept responsibility for the enlargement of the liver and spleen. And I think it is much more likely that this is showing disease of the liver and then the enlargement of the spleen is almost certainly due to that. So it all points to the likely presence of cirrhosis at this stage, with portal hypertension, in other words pressure building up behind the liver, and that includes enlargement of the spleen.

Q. I suppose, as a matter of logic, the plan may be slightly flawed because he is only going to investigate if this is a new finding, whereas it could be a finding of some standing that has never been explored. Is that unfair?

A. Well, there had been a number of specialists involved in the care and then in the middle of it all she has had valvular heart disease of sufficient severity to warrant replacement. So I think lines are possibly getting crossed and perhaps investigations that have been performed previously have been slightly lost, have gone out of focus. So now that the heart is in good condition, people are about to pay more attention to the enlargement of the liver and spleen, I think.

Q. I see. And then if we follow what happened next, if we

look at [OHA0012501], please. Dr McLaren is reporting to the GP that he has had rather a delphic communication, presumably from the Royal Infirmary, from the cardiothoracic surgeons, the burden of which I think is that they have not noted hepatosplenomegaly before. So he is saying that that requires to be investigated further. He is consistent. So he is saying, "We need Mrs O'Hara to have an ultrasound of her abdomen".

Can we just look at [OHA0012500] briefly, before we go to [OHA0012494]. I have missed one.

Yes. Dr McLaren is a bit puzzled and he is saying ultrasound has confirmed the presence of splenomegaly but it has suggested there is also a degree of portal hypertension. So maybe this is all secondary to cirrhosis, marginally disturbed liver function tests. So he is thinking along the right lines here, is he?

A. Yes, he is.

Q. And then if you look at 2494 it actually looks as though he is a bit cross because he received, as we saw, rather a delphic letter from the Royal Infirmary, and he says in the middle paragraph that when he had written to them, he asked if this had been noted previously. That's the liver problems:

"I got a completely unhelpful letter back from the surgeon there who obviously had not bothered to review

her notes, since Mrs O'Hara herself tells me she had been told there was something wrong with her liver due to her heart disease."

So, Dr Mutimer, I haven't actually been able to find the delphic communication but I think we know enough from this letter of its terms, and actually you mentioned wires being crossed or failures of communication. It looks as though, when the Royal Infirmary wrote back and said that this finding was a new finding, they were actually wrong. It had been noted in 1990.

A. Yes, it is difficult for the patient. She has got a number of specialists in more than one hospital. So unfortunately it is a frequent cause of confusion and does delay and impede achieving the correct diagnosis.

Q. But if we look at [OHA0012486], what certainly seems to be happening is that Dr McLaren from the diabetes clinic is trying to get to the bottom of things, and in fact also, looking at this letter, the cardiologists are trying to find out a bit more about the possible liver problems too or the actual liver problems. If we read this letter, the cardiologists are writing to Dr McLaren, the diabetes physician, and it looks like an accurate summary in the first paragraph of the history of this particular complaint.

The other thing I wanted to ask you about, which is mentioned in this letter, is that there was possible fat infiltration of the liver. Is that a significant finding?

A. I'm looking for that.

Q. Sorry. That's about line 3 of the second paragraph.

A. Yes, I have got it. I'm sorry, it is a very small font.

Q. All right.

A. Yes, the fat infiltration is probably not surprising and is possibly as much related to the diabetes as to the Hepatitis C. It is very common for diabetics to have excessive fat in the liver, which on ultrasound has a characteristic appearance. Some cases of Hepatitis C without diabetes will also have excess fat in the liver. So this finding is not surprising and it doesn't contribute anything new or surprising.

Q. Does it interfere with the functioning of the liver?

A. The fat infiltration can interfere with the functioning of the liver but in most cases the liver function is excellent, despite having excessive fat in the liver, in the majority of cases.

Q. Can we look at the second page of that letter, OHA0012487. We can see that Dr Tait, who seems to be working in association with Dr Dunn, Mrs O'Hara's cardiologist, has initiated a number of investigations.

Importantly, one of the investigations he has arranged is a further hepatitis screen, and that's no doubt the right thing to do in your opinion?

A. Yes, I can't recall whether this is the same hospital as the hospital that Dr Morris was working in.

Q. I think he was at the Royal Infirmary.

A. At the Royal, wasn't he?

Q. Yes.

A. So that would be fairly typical to go through a whole liver screen I think, if you had not had one done in the hospital before and if there is a puzzle like this persisting.

Q. What about his comment:

"The present degree of right heart failure ..."

This is the beginning of the first full paragraph:

"The present degree of right heart failure would suggest an alternative cause for the hepatosplenomegaly."

What about that? Can you explain that, please?

A. Yes, I think we discussed this briefly five or ten minutes ago. I think the cardiologist would be reluctant to accept responsibility for the problem once the mitral valve had been replaced and the heart problem resolved. So they would be saying that any congestion of the liver which might have caused enlargement should

no longer be an issue because the cardiac problem was resolved. They are getting back to making the point that enlargement of the liver and spleen, we should be looking for things that affect the liver directly, like Hepatitis C, for instance.

Q. Right. Can we look at [OHA0010834]. This is the result of the Hepatitis C screen from February 1995 and this time we can see that it's positive.

A. It is not on my screen yet. Here it is. February 1995, confirmed positive for Hepatitis C antibody.

Q. Yes. You asked, Dr Mutimer, in your report whether there had ever been a PCR test. Perhaps you should just explain to us so that we all understand, what might have been the limitations of that test that we are looking at compared to a PCR test?

A. Well, the antibody test simply tells us that the patient has been exposed to Hepatitis C at some stage in the past. It doesn't tell you whether or not the virus is still present. And we know that about 20 per cent of people who acquire Hepatitis C will eliminate the virus with their own immune responses and that usually occurs, if it is going to occur, within the first six months after infection. So this result does not tell us that there is persistent infection. It tells us that the patient has been exposed to Hepatitis C, and we need to

do an additional test to confirm that the virus is still present. Of course, in a lady who appears to have quite significant liver damage, the probability now is starting to become very high that the virus is still present.

Q. But just to put it beyond doubt, can you look at [OHA0012710]. I hope you can see that at a reasonable size font. That is a result from April 2003 and you see that that is a PCR test.

A. I'm still waiting.

April 2003, HCV PCR positive. So the PCR test is a test which will detect the virus particles specifically. So that says infection is still present.

Q. Can we go back in time, please, to March 1995. We are taking that out of order but just to confirm that there was a PCR test some years later, go back to March 1995, to [OHA0012476]. This is back to the cardiology clinic and Mrs O'Hara has been undergoing investigations for the liver problem but she has also developed herpes zoster. That's shingles, isn't it?

A. Yes.

Q. But in fact that seems to have been the most acute problem at the time of writing this letter. Is that fair? If you look in particular at the bottom of that page.

A. She has got a lot of pain following an episode of shingles, so post-herpetic neuralgia usually means after the rash has resolved, there is still irritation of the nerves and that can be very painful.

Q. And in fact she has been admitted to hospital because of that. That looks to have put the investigations into the liver problem on hold, doesn't it?

A. It looks like it was another distraction, doesn't it?

Q. Yes. If we then look at [OHA0012475], this is the end of March, back to Dr Dunn, he seems to be saying that there is now a better explanation for the hepatosplenomegaly and he has discussed it with gastroenterologists and a biopsy is indicated. I take it you would agree with that on the basis of the situation as it then appeared?

A. Yes, I think that plan of management was entirely acceptable.

Q. Right. [OHA0012474], the page before. Dr McLaren is also still involved. He is saying:

"The hepatic investigations have been deferred. I see from her notes she does have antibodies against Hepatitis C, presumably from her blood transfusions."

And he says:

"Perhaps this would explain why she has developed cirrhosis."

Which is presumably the diagnosis.

If we follow the correspondence through; look at [OHA0012473].

A. I have just got [OHA0012474].

Q. Sorry.

A. Yes.

Q. Okay. Yes, Dr McLaren is really presuming that there is cirrhosis and as it turned out, he is correct about that.

A. Yes.

Q. Then if we look at the page before, 2473, Dr Dunn, the cardiologist, has the result of a CT scan of Mrs O'Hara's abdomen:

"Significant hepatosplenomegaly and in particular splenomegaly is present."

Does this hark back to what you told us earlier about being able to feel the spleen? Is that why he is emphasising the spleen?

A. Yes, he is telling you about a stage of the liver disease. If you have a damaged liver but without the development or progression to cirrhosis, then the spleen would normally not be enlarged. So it gets back to the point that the patient has liver disease which almost certainly is cirrhosis and the splenic enlargement is due to that.

Q. Right. And this is the reference we heard from Mrs Kennedy earlier, that she recollects a period when her mother was thought perhaps to have lymphoma and we can see that this is thought to be the case and suspected to be the case at this point.

A. I think sometimes the scans will be reported by doctors and experts who don't have all of the underlying clinical details. If I saw that report, I would probably dismiss it and think that this was simply a case of cirrhosis due to Hepatitis C.

Q. Right.

A. Lymphoma is a possibility but not likely.

Q. One of the things which is striking, Dr Mutimer, when one reads through Mrs O'Hara's records, is that all of this effort to get to the bottom of her liver problems in the first half of the 1990s appears to be at the initiative of the diabetic physician and the cardiologist. That is unusual, is it not?

A. She has got a good diabetic specialist and a good cardiologist, I think. They are probably very well trained physicians in the early 90s. They probably have very good background training in general medicine, including gastroenterology. So I don't have any reason to criticise any of the doctors who have been involved with her care so far. You are right that it has taken

a long time to get to the right diagnosis and to say what the stage of the disease is.

I think people's familiarity with Hepatitis C in the early 90s was really quite poor. Remember, the virus was only discovered in 89. The first tests available in clinics in 1990. So a lot of our knowledge about Hepatitis C at that stage was fairly superficial. But you are right, there has been a number of doctors at a number of hospitals who have been involved and eventually they have got there. Perhaps it is that first test in 1990 which has really thrown them off track, I think, and that was unfortunate because, you know, it was a very clever thing for the doctor to do in 1990, to say there has been transfusion. There is liver disease, is it Hepatitis C? And then unfortunately an erroneous result has thrown him off track, I think.

Q. Perhaps we should clarify -- and we are going backwards just briefly -- that in 1990, it was possible to test patients to see if they had Hepatitis C but there wasn't screening of donated blood. Just because people may be puzzled as to the difference in the purposes for which tests were used in the United Kingdom in 1990. So just to clarify that screening of donated blood wasn't introduced until the autumn of 1991 but in 1990 it was certainly possible to test patients to see if they had

Hepatitis C, to see if they had antibodies to Hepatitis C. Is that right?

A. Yes, that's true.

Q. So you said it was a very clever thing to do, to think of doing that test in 1990 but would you say overall, is it your view that there is somebody missing from the team at this point, and that somebody would be a gastroenterologist or a liver specialist?

A. I think it is difficult. You have flashed up a number of documents of different hospitals over a period of time and I can't recall from that how selective you have been and what the involvement of gastroenterology has been. So I think Dr Morris was the registrar in gastroenterology if I recall correctly. I can't remember whether there was a consultant involved at the infirmary or not, I'm sorry.

Q. Could you just take it from me that certainly there was gastroenterological involvement in 1990 and that was when the general practitioner took up the suggestion of seeking gastroenterological advice, but when the negative result from the test came through at the end of 1909, she was referred back to the cardiologists and we agreed earlier, or you explained to us earlier that that was a sensible thing to do because of the mitral valve problem.

There doesn't, from the records -- it is not that I have missed out gastroenterological involvement. There is not gastroenterological involvement in the background between 1990. And we are actually going to come to it; there was some but at the point at which we are examining matters, which is May 1995, it has been since 1990 that she last saw a gastroenterologist. Just so that you are clear about the factual situation.

A. That's okay. I think again, if there had been no background cardiac problems this probably would have come to a correct diagnosis much more quickly but this lady has been distracted by the need for, really quite major cardiac surgery, and it has also muddied the thinking about the cause of her abnormal liver function tests. So I can understand the delays that we see in establishing the correct diagnosis. It could have been diagnosed more quickly but I can understand why it took as long as it did.

Q. So you understand how it happened?

A. Yes.

Q. Right. [OHA0012469] is the liver biopsy. And this is still under the aegis of the cardiologist department. She was admitted on 20 June 1995 as an arranged admission for liver biopsy.

Then can you tell us about the bone marrow trephine

and aspirate. Is that part of the lymphoma theory?
A. Yes, I think they took advantage of the same inpatient stay, I think, to look at the liver histology to confirm cirrhosis. But in addition, perhaps it was the appearances of the CT scan and also the fact that the patient had, I think, a low platelet count and so on, that made them concerned that perhaps there was an underlying blood condition like a lymphoma. So I have seen a number of patients who have been investigated along these lines and usually you conclude that it is just a cirrhosis that's the problem.
Q. Right. Indeed, if we look at the second paragraph, we can see that the liver biopsy has showed cirrhosis with lymphocytic infiltrate. So not a surprise, I take it?
A. No, expected.
Q. Indeed, it would have been a surprise if it hadn't perhaps.
A. Yes.
Q. What about the lymphocytic infiltrate. What's that?
A. That's typical of Hepatitis C. That's just the body's immune cells reacting to the presence of the virus in the liver.
Q. Then [OHA0012468], so the page before. The cardiologists are reporting to Mrs O'Hara's GP about the liver biopsy and saying that they think

gastroenterologists should be asked to review her and further assess the need for additional treatment such as interferon. He is going to see her. This registrar is going to see Mrs O'Hara in four months' time but he will wait until Dr Forrest's review. Dr Forrest is a gastroenterologist, I understand, or was a gastroenterologist. If we look at [OHA0011011], something has gone awry with the dating of this letter, Dr Mutimer, because the typist appears to have been able --

A. I am still not --

Q. You don't have it?

The typist appears to have been able to type it four months before it was dictated. So I don't think that can be right.

But do you have [OHA0011011]?

A. Yes, this is a very good letter.

Q. Right. That has gone to Dr Forrest. We should just note that I think the correct date is probably 12 September, if it was dictated on the 11th and then was typed on the 12rd. If we with then look at [OHA0011003], here we have Dr Forrest. You mention this at the top of page 3 of your report. Can we have Dr Mutimer's report beside --

A. I have got a hard copy as well.

Q. Yes, you have a hard copy but I think for the rest of us if we could have that, [BLA0012298], except it will be 2300, I think. Have you got the letter in front of you, Dr Mutimer? The letter from Dr Forrest? Have you got that?

A. Yes.

Q. Right. When you have a minute, if you could go to the third page of the report, please. The first paragraph in your report on page 3 seems to be referring to this letter. It looks as though, from Dr Forest's letter, what he has done is look at her notes, including the biopsy report, but it doesn't look as though he has seen Mrs O'Hara. For our purposes, this is an important letter from Dr Forrest. I'll just give you a moment to refresh your memory. (Pause)

Right? Sorry, doctor, you have looked again at the letter, right?

A. I have looked at the letter from Dr Forrest to Dr Dunn, yes.

Q. Right.

A. You are right, it looks like he has responded but not yet having seen the patient.

Q. Right. Just almost as an incidental matter, you see that he says in the second paragraph that:

"The cirrhosis could be idiopathic."

Then again makes the same point in the third paragraph but says that it could be cryptogenic. These are both terms, as I understand it, to describe an ailment that one can't really explain in causal terms, but what's the difference between idiopathic and cryptogenic?

A. Asking an Australian about Greek and Latin is a real challenge, I think. I think one of them's Latin and one is Greek, I think. Cryptogenic, I think, is Greek which means that the cause is not known. Idiopathic is probably Latin and means the cause is not known, they mean the same thing.

Q. We certainly have our own inhouse expertise on the etymology of those two words.

A. Was I correct.

MS DUNLOP: I am afraid the chairman is shaking his head.

THE CHAIRMAN: They are both Greek.

MS DUNLOP: The chairman is going to tell us the difference. They are both Greek and they both roughly mean, "We don't know".

THE CHAIRMAN: "Cryptos" means you can't find out, it is hidden. "Idio" means it is singular in some specific way.

MS DUNLOP: I suppose we can at least see that Dr Forrest has some classical education, that he is freely able to

use both. Does it surprise you that he is raising the possibility that the cause is unknown?

A. There is an elephant in the room, isn't there? So I would have thought it is all due to Hepatitis C, really. I'm not sure why he is suggesting that Hepatitis C is present but not responsible for the damage. That's not likely.

Q. Right. Although you have commented on this in your report, I think we should take today in evidence your comments on the fourth paragraph about interferon. Before doing that, I'm sorry, Dr Mutimer, this is a tiny point but in your report you say:

"He suggests the chance of successful treatment was in the order of 20 per cent."

But actually he says 25 per cent. Can we just note that, perhaps, before you give your comments on his --

A. Yes, I'm not sure why I wrote 20 per cent, if that's the only estimate that Dr Forrest ever gave, then my statement can be corrected, if you like.

Q. Right. But could you give us some comment on what he is saying about interferon?

A. Say that again, please.

Q. Sorry, I just wondered if you could give us your comments on what is in the letter about interferon. You do comment on this in your report and I think you are

broadly supportive of the line he is taking. Is that correct?

A. Yes. At that time, 1995, the only treatment being used generally for Hepatitis C was interferon. It was a type of interferon that was given by injection three times a week, and the results of treatment were fairly poor. The results of treatment in patients who had more advanced liver disease are inferior to poor. So I think the estimate of 25 per cent was optimistic. I think you said we still don't know the genotype but even with a favourable genotype and with our present treatment, a response rate of 25 per cent would be acceptable. So it was very optimistic back in those days.

Q. And Mrs O'Hara is in the category of patients who have established liver disease, so she would be, as it were, poorer than poor, her prospects would be lower than poor?

A. Yes, I think so, and I don't think that the data would have existed in 1995 for Dr Forrest to be able to give a more accurate estimate. The studies were not informative really when it comes to treating patients with advanced liver damage, we just knew that the results were inferior, we didn't know how bad they were.

Q. Actually he refers also to there being money for a trial at the Royal and the Western, so obviously not Stobhill.

So almost as a sort of added consideration, she would have to be referred to one of those hospitals.

A. It is an expensive drug and there was very little experience in treating Hepatitis C at that time. So it was probably policy in many larger cities to try and focus the expertise in one or two centres rather than to have every hospital trying to provide the service. So I'm not surprised that that was the situation in 1995.

Q. I don't need to take you to it but pages [OHA0011045] and [OHA0011049] show that Mrs O'Hara had ultrasound examination after this and there were two varices. I think actually in the two previous patients on whom you have commented, varices were a finding and our understanding is that these are almost like a sort of internal varicose vein --

A. Yes.

Q. -- in the liver.

A. Yes, the varices would indicate that the patient -- when taken with all the other evidence that we have seen, would indicate that the patient has cirrhosis due to Hepatitis C, that she has high pressure behind the liver as a consequence and that these varicose veins, which are potentially in all of us, have now, because of the pressure, swollen up and are visible.

Q. Just before we leave the letter, it looks like he has

read the biopsy report but from the end of the letter he hasn't looked at the actual biopsy, and he is saying that's what he is going to do:

"I will arrange to review her liver biopsy."

It is October 1995.

A. Yes, that would be an acceptable practice, to review the biopsy in your own meetings with your own pathologist so that you could come to a conclusion about the severity of the inflammation and convince yourself that you agree with the diagnosis that was made at the other hospital. So it is not essential but that's actually very good practice, I think.

Q. Yes. I think everybody is in Stobhill actually at this point, Dr Mutimer. Can we look at [OHA00011008]. This is March 1996 and this is Dr Bong writing from Dr Dunn's team saying that Mrs O'Hara has been seen in February 1996 the cardiologists are under the impression that:

"She may be called back for further biopsy to see if there is any evidence of ongoing hepatitis. We would be most grateful for your advice."

So he or she is alluding to Dr Forest's review in October and asking, in March of the next year, if there is going to be a further biopsy. I should say that someone has written "Review liver biopsy" on it and then

"Notes". Then [OHA0011012]. This is May 1996. Dr McLaren is writing from the diabetes side of things saying:

"You may remember Dr Bong wrote to you in March about whether this patient required a repeat liver biopsy. I saw her at my clinic, she said she had not heard anything from you. I'm enclosing her case notes in case she could have got lost in the system."

Then [OHA0011017], July 1996. This is from Dr Forrest and it looks as though the handwriting that we saw on the previous letter saying "review liver biopsy" and "notes" is the same handwriting as the signatory of this letter, but this is Dr Forrest replying to Dr McLaren.

A. I don't have that page yet.

Q. Sorry, I'll wait.

THE CHAIRMAN: Ms Dunlop, if you are contemplating a break at any point.

MS DUNLOP: If we look at this one, and in a nutshell, Dr Mutimer, this letter is really saying the same as Dr Forrest had said in the previous year, isn't it?

A. I think where my figure of 20 per cent came from.

Q. Right.

A. It is interesting that the paragraph starting:

"The other problem is that the Trust will not pay

for this treatment ..."

In retrospect I think the patient was probably lucky that she didn't receive the treatment. I suspect that she would have had a lot of side effects and no success from the treatment.

Q. Right. So it is not as though there would be any difficulty with her being, as it were, a Stobhill patient, in inverted commas, because Dr Forrest has spoken to the gastroenterologist. I think this probably means the gastroenterologist at the Western Infirmary, and he has indicated his willingness to see any patients from Stobhill. We don't really learn quite why it is that the Trust wouldn't pay. Do you think that might be something to do with how --

A. From the previous letter, I think this was a new treatment and it looked to me as if there was an investment in funds but focused on a couple of specialist centres. So if this patient was not going to receive interferon, then it looks like the gastroenterologists at Stobhill would be quite able to continue her entire management at that hospital.

Q. Can we just flip over and look at the end of the letter, just to see. Dr Forrest is saying that he doubts very much if she is a candidate for interferon. I think we can detect from everything you have said that you would

agree that that's a reasonable view.

A. Yes, it is and I suspect that the product sheets for interferon back then also had, as a caution, patients with cardiac disease. That may also have influenced his thinking about her suitability.

Q. Right. It does still look as though Dr Forrest hasn't seen Mrs O'Hara, doesn't it?

A. Yes, it does.

Q. It looks like more of a desktop review, if you can say that in medicine.

A. Yes, I think he has looked at the file, he has given it thought, his planning management is appropriate but he has not seen the patient.

Q. Perhaps all that might be missing is the chance for the patient herself to discuss the illness and the reasons why treatment isn't suitable with the expert. Is that fair?

A. Exactly, yes, I think so. I think Dr Forrest had the local expertise and I suspect that the patient and family were pining for more information about what the implications were. So that would be good practice, to see them and discuss that.

Q. If we look at [OHA0011020], that is just the end of this little chapter. Having received that letter from Dr Forrest, Dr McLaren wrote to Mrs O'Hara and told her

that she didn't need a repeat biopsy, so that seems to be the end of that little chain of events, Dr Mutimer, except to say that -- I should explain, sir, that we are unable to have Dr Forrest's version of this little chapter. Dr Forrest, I am afraid, died on 26 June last year.

THE CHAIRMAN: And we don't have a statement from him of any kind?

MS DUNLOP: No.

Is that an appropriate moment to have a break?

THE CHAIRMAN: Yes.

MS DUNLOP: Dr Mutimer, we are going to have a short break of ten minutes.

(11.42 am)

(Short break)

(12.05 pm)

MS DUNLOP: Just another small batch of correspondence to look at. Can we look at [OHA0012439], please? This is Mrs O'Hara. She has actually been referred to the haematologist at Stobhill and she has been referred because of neutropenia and thrombocytopaenia. Can you just explain those, please?

A. I don't have the letter in front of me but leukopenia means that the white blood cells in the blood are at a reduced number, thrombocytopenia means the platelets in

the blood are at a reduced number. Both of those are observed in patients with cirrhosis.

THE CHAIRMAN: I think Dr Mutimer may have defined leukopenia and not neutropenia.

MS DUNLOP: Sorry, doctor, it was neutropenia. Is that a subset of --

A. Yes, it is, that's right.

Q. Yes.

A. It has the same significance, so patients with cirrhosis frequently have leukopenia, including neutropenia, and they suffer with thrombocytopenia.

Q. Right. Neutrophils are one type of white cells. Is that right?

A. That's correct.

Q. And we see a recital of the symptoms she has: Hepatosplenomegaly, presumably secondary to Hepatitis C?

A. Yes.

Q. And then OHA0012440, just over the page, and indeed this is a haematologist saying that these symptoms are due to the hepatitis infection and the enlarged spleen and that she is also a bit anaemic, and then there is going to be an endoscopy. Are they looking for the varices here or could there have been other bleeding, other than varices?

A. They would be looking for a cause of blood loss. Just

looking at the second page of the letter, the haematologist thinks that the patient is iron-deficient, which means there is likely to be some chronic blood loss. That can be due to the portal hypertension, it can be due to the cirrhosis. It is appropriate that she has an endoscopy for two reasons. One is to see whether the varices are present and if they are small or large, and at the same time the endoscopist can look around the stomach to make sure that there is no additional cause of blood loss, like a stomach ulcer or a stomach cancer.

Q. If we go to [OHA0012249], this is just perhaps worthy of note because it is another example, or it is an example, of Mrs O'Hara asking for information. Do you see that in the middle of the letter, doctor? She has attended the gastroenterologists in the past, she was once again enquiring about the possibility of interferon therapy for her Hepatitis C. She had read a recent article in the newspapers about this.

The haematologist has seen, from the notes presumably, that she was considered for this but is perhaps deferring to the gastroenterologists and saying to the GP, "Well, if you want gastroenterological input, you can refer her."

A. Yes.

Q. And there isn't actually any trace of that having

happened around that time.

Now, can we move to [OHA0012156], please? We have moved quite a bit further forward, to March 2003, and this is a letter from a Dr Milburn, general practitioner, and this is something you refer to in your report, that Dr Milburn is sending Mrs O'Hara to Stobhill, and there is a list of her difficulties, but at the moment the problem is that she has right hypochondrial pain. So where was she sore?

A. She is sore under the ribs on the right-hand side.

Q. And the other thing perhaps to note from this letter is that the GP is saying her liver function tests were normal for her. In absolute terms, are these, what, only mildly abnormal?

A. Yes, they are only mildly abnormal.

Q. And then can we just look at the second page, OHA0012157? The GP is asking for an urgent appointment and thinking about an abdominal ultrasound. We then go to [OHA0010844]. This is 31 March. There has been a CT scan and there is severe pancreatitis, so inflammation of the pancreas. Is that correct?

A. Yes, that's right.

Q. Is this showing quite a significant degree of abnormality, doctor?

A. We are looking at the CT scan --

Q. Yes.
A. -- dated 31 March, and the scan shows what we already knew, that the liver and spleen were enlarged. We already knew that the patient had varices. Some of those would be visible with the endoscopy, some of them would not be visible but would show up on the CT scan. So that's not surprising.

There is no evidence of a pancreatic mass. Moderate amount of ascites. No other abnormality. And that's about all. So it doesn't really tell us what the cause of her abdominal pain is.

Q. The reference to the varices entwining around the pancreas, does that contribute to the pancreatitis or is that just incidental?
A. No, it doesn't, it would not cause pancreatitis. The head of the pancreas sits really very close to the undersurface of the liver, and the dilated veins, the varices which can form, frequently form extensively in that area. So they don't cause pain, they don't cause pancreatitis. So it is not a surprising appearance and I don't think we have a diagnosis of pancreatitis from that scan.
Q. Right.
A. This could all just be cirrhosis and the patient may have developed ascites due to that.

Q. But clinically we can see that there is said to be severe pancreatitis. That's just in the clinical history part.
A. Yes.
Q. And that is the explanation for the pain under the ribs on the right-hand side, is it?
A. That would be sufficient explanation.
Q. And we know that there was an attempt made to treat gallstones but we have Mr Robertson coming this afternoon, and since it was Mr Robertson who tried to do this, we will ask him about that.

But perhaps we can just take this reasonably briefly. We should go back to your report here, [BLA0012298], and you deal with this period in the middle of page BLA0012300.
A. Yes. It is a fairly brief summary of what was a very difficult and complicated admission.
Q. Yes. You see that there was the pancreatitis and the attempt to clear the stones -- the stones were causing the pancreatitis, or at least that was the theory, was it?
A. Yes, that's right. Probably the most common cause of pancreatitis in a patient of this age would be gallstones and I think that the scans had shown that the patient suffered with gallstones. If it is a very

severe and prolonged episode of pancreatitis, then it is the frequent practice to try and clear some of those stones away from the bile duct.

Q. We can ask Dr Robertson about this this afternoon but it does look as though the treatment of the pancreatitis was successful to some extent, but then Mrs O'Hara developed cellulitis. In short, can you explain what cellulitis is?

A. Yes, cellulitis is an infection of the soft tissues and, according to my letter, the cellulitis was mainly affecting her lower limbs. I think that in the course of this illness Mrs O'Hara had a lot of problems with fluid retention and that would be manifest in a couple of ways. One would be that she would develop ascites or fluid in her abdomen, which we saw on the CT scan, but in addition to that, the fluid retention is likely to be more generalised and particularly affecting her lower limbs and bottom, and under those circumstances there is a susceptibility to infection because of that swelling of the tissue with fluid. So it looks as if there is the susceptibility and then indeed, unfortunately, she developed infection in those tissues.

Q. Just really for the record, can we keep the report, Dr Mutimer's report, but look at [OHA0011853], please, and this section of Mrs O'Hara's records relates to her

final illness and she was transferred to the coronary care unit and you say that -- do you say that?

A. I don't mention the coronary care.

Q. No, you do not but she was transferred to the care of the cardiologists at the beginning of May 2003, and I think actually Mrs Kennedy mentioned that. Just to pick up a couple of points you make in that same paragraph, you say that she had a white cell count -- and this is, I think, really very close to the time of her death -- that her white cell count was 40. We can see that on [OHA0011862]. Yes, it is about seven lines down on [OHA0011862]. Someone has written:

"White cell count 40.4."

That would seem to be the entry that you are referring to, doctor.

A. I'm not sure. Perhaps there was a laboratory record as well.

Q. Yes, it's probably that as well. But how is that in absolute terms?

A. That's very high. So that would only be seen in someone with very severe infection. In this context that tells you that there is a very severe infection requiring aggressive and prompt treatment.

Q. Right. If she didn't have the neutropenia that you referred to earlier, would her white cell count be

higher than 40 or is it not a factor?

A. It is probably not a factor. 40 is extremely high. We probably wouldn't distinguish between the benefits of having a count of 40 or a count of 45 or 50. I think it is just telling you that there is a very, very serious infection.

Q. What should it be? What's normal?

A. This was a total white cell count, I think, so the normal value would be about 5.

Q. Something else you say is that her liver function tests remained remarkably good, and I think we should just have a look at some of those results from May. [OHA0011546], please. That's 4 May, and we can see from about half way down the page there is:

"Alkaline phosphatase 252."

A. Right.

Q. Have you got that?

A. I have got a blood count and biochemistry. I will have to magnify this:

"Alkaline phosphatase 252."

I can see that:

"Bilirubin +65."

I think the plus simply means that the value of 65 is elevated, above the reference range.

Q. Just to look at the strip, the laboratory has, as the

third column, as it were, what I take to be its own reference measurements for normal, does it?

A. Yes, the reference is in the same column as the chemicals. So bilirubin 3 to 20 means that's the normal reference range. So 65 is elevated. That would represent a patient who is developing jaundice.

Q. Right. And the same with AST and ALT. They have both been --

A. That's correct, they are both elevated.

MS DUNLOP: Right.

THE CHAIRMAN: Is the albumin record significant in any way?

A. Yes, it is. This blood test was done on 4 May, I think, which was about five or six weeks after admission to hospital, and that would be a value which would probably be very typical of a patient with severe pancreatitis. So it doesn't necessarily implicate the liver. It's also a hard value to interpret because the person may have been administered intravenous albumin solution solutions. So it makes it difficult to interpret, but typical of someone with severe pancreatitis, who is still unwell in hospital six weeks later.

Q. Can we look at the following day, [OHA0011543]. We have to go back and find the following day. The same exercise, doctor. I suppose a similar picture, unsurprisingly, is it?

A. I have got 1546 still.
Q. All right. It's coming. There we go.
A. 1543, and the date of this one?
Q. 5 May.
A. Is it the following day?
Q. Yes.
A. So the pattern of abnormality is similar. The alkaline phosphatase is a little bit higher, I think, than yesterday's but that doesn't really contribute anything. The CRP is an important result there, if you can see that.
Q. Yes, we can see that.
A. CRP is what we call C Reactive Protein. It is a chemical that is liberated into the blood in patients who have got serious infections. A value of 126 is not surprising. We know that Mrs O'Hara was suffering with infection and difficulty managing that.
Q. Right. And [OHA0011540] is the following day. Do you have that, Dr Mutimer?
A. I have got 1543.
Q. You will get 1540 in a moment.
A. Yes.
Q. Yes. It looks as though the AST and ALT have gone up a bit, doesn't it?
A. I can't recall the previous day's. It is a test which

will fluctuate a little bit from day to day but it is not the way that you would monitor whether the liver was failing or not. The CRP, you can see, is still high, and in fact higher than yesterday, I think, and from memory I think that it has probably risen, despite the fact that the patient most likely was on antibiotics already at that stage.

Q. I was just interested, doctor, because you had said in your report that the liver function tests remained remarkably good. I mean, is there any measurement, or are there any measurements, in particular that we can see on these strips that tell us that?

A. Yes, I was thinking more of this set of blood tests that was done in the few days leading up to the patient's death, but if you have got a patient with cirrhosis of the liver who develops a serious problem elsewhere, like a pancreatitis or any other serious non-liver illness, then probably the best way to see whether the liver has sufficient strength to cope with the stress is to look at the serum bilirubin, which we discussed, and also the INR, which is a reflection of the blood clotting. The point that I make in my report is that it is really only at the very end that the bilirubin started to go up and, similarly, the prothrombin time, or the INR, is affected by the warfarin. They had to stop the warfarin but when

they did that, the prothrombin time returned almost to normal values.

So her liver was coping remarkably well during the first weeks of this really very serious illness, which indicated to me that if she had not developed this serious illness, the liver still had significant mileage left in it.

Q. I thought I had found the prothrombin time, Dr Mutimer, but in view of what you have said, I may be looking at it too late. There is a value for 1 May on [OHA0011586].

A. I haven't recorded the exact date of stopping the warfarin in that record. That's important to know if we are going to interpret the prothrombin time.

Q. I see. I don't want to take up unnecessary time at the moment, doctor. Perhaps we can look in the records and find measurements slightly earlier than May. You think it would be more reliable to look at measurements in April or measurements after the stopping of the warfarin really?

A. I have got a result. Prothrombin time. Is that 1 May, I think?

Q. Yes, that's 1 May.

A. It says 85 seconds. I think that that was taken while the patient was on warfarin.

Q. Perhaps we can then look at [OHA0011590]?
A. It would be subsequent measurements, I think, that --
Q. We have that. 1590. This is, I suspect, the last measurement. This is up at 99.
A. That's on 7 May.
Q. Yes.
A. I think that's -- that's an agonal result really. That's with the patient almost passed away. So it would be the sequence of values that I have looked at during the entire course of the admission and then looked at those with reference to the patient taking warfarin or not. So my impression of those results was that the liver managed really remarkably well in the early phases, despite the severity of the pancreatitis.
Q. Can we just look at the page before that, please, [OHA0011589]? I think actually there, doctor, that may be a much better way of making your point, that on 6 May -- I think this is the 6th -- sorry, 3 May -- the time is 33 seconds.
A. 13?
Q. No, 33, if you have got it. Maybe you haven't got it yet. 1589.
A. Yes. That's very prolonged. I apologise, I must have been referring to the results earlier than that.
Q. Right. Quite a bit less, though, than the following

day, if it is 33 on 6 May and then 99 on 7 May. You suggest that the 99 is an agonal result?

A. Yes, I think so, the patient was so seriously ill on 7 May, I think, that it wouldn't have mattered what you tested, it would have been terribly abnormal on that date.

Q. The only other thing I want to look at, doctor -- and this is, I suppose, rather a change of subject, but if we go to [OHA0012113], can we just flick through this, please? We don't need to read it but just to see what it is. It is a patient's guide to the management of diabetes. That's the contents page.

Sorry, we had better wait. Dr Mutimer, I'm sure, hasn't even got it. Do you have the diabetes booklet?

A. Not yet.

Q. Right. I'm being advised, Dr Mutimer, that you should flick through this booklet yourself at your end. A good page to look at is the contents page, which is 2115.

A. All right. What page do I want?

Q. I was looking at the contents page, which is 2115.

THE CHAIRMAN: 28 of 316.

MS DUNLOP: Oh, yes, 28 of 316. Does that help?

A. It will help. Contents? I have got that, yes.

Q. People with diabetes get this booklet and it gives them dietary advice, a treatment record, annual review,

notes, questions and answers, and actually I think, if you study this booklet, there is some contribution from a pharmaceutical company.

Now, of course, diabetes is a completely different illness but are there comparable documents about Hepatitis C; in other words, good patient information booklets/leaflets?

A. There are good information booklets and leaflets, and probably a million websites as well, which are of variable quality. So there is plenty of information there. Most outpatient departments these days in gastroenterology or hepatology would have some useful booklets, perhaps from the British Liver Trust on Hepatitis C, or useful booklets that are actually manufactured with the help of the pharmaceutical industry as well. So there are a lot of resources there.

Q. Was that true in the mid 1990s or to a lesser extent?

A. No.

Q. No?

A. A much lesser extent.

Q. Right. So was the patient then more dependent just on getting information from the doctor?

A. Yes, and I think most GPs would have very little knowledge of hepatitis. So it would be specialist

knowledge that they would be looking for.

Q. Right. Now, Dr Mutimer, just finally can we go back to your report, please? Thank you, I can see it appearing.

You were asked to consider, and you have considered, the cause of death. At this point I think I would like you to look at the death certificate. Keep your report but look at the death certificate as well, which is [OHA0012641].

Now, under, "Cause of death" -- do you have the death certificate in front of you?

A. Not yet.

Q. Not yet, right.

A. Yes, I do.

Q. Right. Do you see that there are three causes listed: hepatic failure, septic shock and mitral valve disease. I suppose the first thing one notices -- and Mrs Kennedy made this point -- is that Hepatitis C isn't mentioned. Would you expect it to be mentioned?

A. Yes, it is a cause of the liver disease, so if the liver failed, then it would be appropriate that Hepatitis C is listed on the death certificate.

Q. Right. It would be "appropriate" -- do you think it should have been listed?

A. Yes, I do.

Q. Right. I accept that you are only reviewing the notes

but do you think there is anything else that you would have put on or would you change it in any way?

A. I think that pancreatitis seems to be missing as well. This patient ultimately -- her final illness was due to severe pancreatitis. At the end of that illness -- and fairly typical of very severe pancreatitis -- the cause of death was infection. That would be very typical of severe pancreatitis. The ability to cope with an illness of this severity would be affected by the fact that the patient has cirrhosis, and the cause of the cirrhosis is Hepatitis C. So the liver was not the cause of the final illness but it probably affected her potential to survive this illness, but I can't say to what extent because patients with normal livers die of severe pancreatitis in this sort of setting.

Q. Right. So in your report, where you say, "Cirrhosis may have contributed to her eventual demise," do you think that really one could say it did, it will have contributed? Or do you want to stay with, "May have contributed"?

A. I think "may" means a better than 50 per cent chance that it contributed but, as I said -- you will be talking to an expert in pancreatitis and this type of illness later but I think he will say to you that the severe pancreatitis in a patient aged 72 is associated

with significant -- severe morbidity and with mortality, and that can be observed regardless of the presence or absence of cirrhosis. I think that the cirrhosis may have contributed to the fact that this patient did not survive the illness.

Q. To turn the page, if we could, please, you say:

"It is likely that she had Hepatitis C infection."

Can I take it that now, having seen the PCR result, you would be willing to say that she did have Hepatitis C infection?

A. Yes.

Q. "And the conflicting antibody tests are difficult to reconcile."

I expect you are still of the view that the test performed in 1990 was a false negative?

A. Yes.

Q. Is that fair? Right. And you say:

"Blood transfusion may have been the source of Hepatitis C. It is also possible that the infection, though nosocomial was not a direct result of transfusion."

You had better explain nosocomial, doctor, or is that another classically-derived term?

A. Yes, I have used it so I can explain it. I think I made the point with one of the other patients as well that

infections can be acquired in hospital, it is not just from blood transfusion, and that includes Hepatitis C. So we see people who have acquired Hepatitis C without ever having received a transfusion but who have had complex and difficult medical problems over a long period of time. With them it is likely that they somehow come into contact with it in the hospital setting. So "nosocomial" refers to that.

So the blood may have been the source of Hepatitis C infection, we can't be certain. It is most likely but, with so many and such complex past illnesses, the hospital setting, including the blood transfusion, is likely to have been the source of her infection.

Q. If I could press you and say, within the hospital setting, is blood transfusion as a whole more likely than some other mechanism?

A. At that time it probably was.

Q. Right. We now know, having looked at the records, that there seems to have been a transfusion in the 1960s, one in 1972, one in 1979 and one in 1985. Are you willing to give your opinion in all the circumstances of Mrs O'Hara's case as to the most likely candidate out of those?

A. Just looking back at my own report, I thought that the transfusion in 1963 -- we don't know if she had

a transfusion in 1963, and in 1963 the frequency of Hepatitis C in the blood donor pool was probably incredibly low, so I don't think it would have been 1963. We know that in 1984 --

Q. 1985.

A. -- she already had abnormal liver function tests and I suspect it was Hepatitis C. So perhaps the transfusions in 1985 and 1991 are unlikely, in that Hepatitis C was probably already present.

Which means 72 and 79, and perhaps the risk then was proportional to the magnitude of the transfusion. So there was one unit in 1972 and two units in 1979. So perhaps Sherlock Holmes might decide on 1979.

Q. Thank you, doctor. I appreciate that it's never going to be possible to know.

Just finally, you say, before listing the documents you have seen, that it seems unlikely that Hepatitis C infection made a major contribution to shortening this lady's life. Having looked at things again and looked at the medical records and the whole history again, is that still your view?

A. Yes, it was certainly my view after going through all of the records. What we didn't discuss was the segment in my report that just tries to come to grips with what sort of health she had in the years between 1999 and

2003, and I can only have an impression. I never saw the patient, of course, but it was my impression that her health was not very good at that stage and that there was diabetes, there was possibly additional cardiac problems, possibly angina. So it is difficult in that setting to say what her prognosis would be if she did not have cirrhosis of the liver.

On balance, I think that her life expectancy was not long because of those issues. The Hepatitis C and the cirrhosis may have shortened her life.

Q. Yes. I'm sorry, Dr Mutimer, I was actually saving some of that material for the cardiologist to look at but there certainly is some reference in the records to cardiac problems.

A. But it does explain how I came to that conclusion, though.

Q. Right. Thank you. Thank you, doctor. I have no further questions.

THE CHAIRMAN: Mr Di Rollo?

MR DI ROLLO: Sir, there is just one matter I wanted to ask in relation to the death certificate.

Dr Mutimer, it is Simon Di Rollo on behalf of the family. I just want to ask you one question in relation to your evidence about the death certificate. You indicated that Hepatitis C should have been recorded as

a cause of death.

A. Yes. You just need to remind me of the organisation of the certificate, please. What should be 1A and what should be in 2? 2 is contributing causes, I think. Is that correct?

Q. I think that's correct, yes.

A. So I think the cause of death then, to be clear, was the -- the immediate cause of death was sepsis, the sepsis was due to the pancreatitis, I think, and the contributory causes, I think, to her death include the cirrhosis, which was due to the Hepatitis C.

Q. And that should have been recorded on the death certificate, you have explained.

A. That's my understanding. The cirrhosis was relevant and the cirrhosis was due to the Hepatitis C.

THE CHAIRMAN: You have said, "That's my understanding." I'm slightly concerned, Mr Di Rollo, that Dr Mutimer may not in fact be necessarily the best person to talk about what should go in a Scottish death certificate.

A. That's it.

THE CHAIRMAN: I think that's what he may have been telling us. Is that the position?

A. Yes, I think I would accept that if I had been filling it out, I would have put cause of death as sepsis due to pancreatitis, and the contributing causes here were the

cirrhosis, which was due to the Hepatitis C -- and probably diabetes as well.

THE CHAIRMAN: So, looking at your professional opinion, those are the factors that caused or contributed to death, irrespective of how you fill out forms in Scotland?

A. Yes, that's a fair way of saying it.

THE CHAIRMAN: You are concerned?

MS DUNLOP: Sorry, sir, I don't want to interrupt but I am holding in my hand notes on how to fill in death certificates, which we do have. They date from January 1999. I don't think we put this into the court book. Not everything is in court book. But we could let my learned friend read it over lunch, if that would help.

THE CHAIRMAN: That would help. My only concern is that we don't have Dr Mutimer being led up a blind alley by asking about filling out forms, when his area of expertise is to address what caused the death, Mr Di Rollo.

MR DI ROLLO: The question that he was asked before was -- and he agreed with the proposition -- that the Hepatitis C should have been entered on the death certificate as a cause of death. He agreed with that proposition. All I was seeking to do was to ask him to

explain why he thought that was the case. That's all.

Now, if he is not someone that we should be asking that, then I'm content with that.

THE CHAIRMAN: You see that the form is headed up, "Registration of Births, Deaths and Marriages Scotland Act 1965," and I'm most unlikely to examine Dr Mutimer on his knowledge of the Act or the requirements under it for the completion of death certificates, Mr Di Rollo. I merely ask you whether it is enough to stick to his area of expertise and not go up blind alleyways. You might have to tell me what you think the 1965 Act requires, but Ms Dunlop is going to help you over lunch.

MR DI ROLLO: I don't think there is any point in discussing the matter any further at the moment anyway.

THE CHAIRMAN: We can discuss it in due course.

Mr Anderson?

MR ANDERSON: I have no questions, thank you, sir.

THE CHAIRMAN: Mr Sheldon?

MR SHELDON: No, thank you, sir.

THE CHAIRMAN: Dr Mutimer, I don't know whether you are being brought back after lunch or not.

MS DUNLOP: No.

THE CHAIRMAN: No? Thank you very much indeed.

MS DUNLOP: I hadn't planned to, sir.

THE CHAIRMAN: You hadn't planned to? Thank you very much

indeed.

MS DUNLOP: In fact that is the end of Dr Mutimer's involvement. So after three days of having to give evidence by videolink, he is free now. He's a free man.

THE CHAIRMAN: Then, Dr Mutimer, I can thank you very much indeed and I'm sure that Oliver James would want to acknowledge your departure also.

PROFESSOR JAMES: Thank you very much, David.

A. Okay, it's a pleasure. Thank you.

THE CHAIRMAN: After lunch.

(12.50 pm)

(The short adjournment)

(2.00 pm)

THE CHAIRMAN: Ms Dunlop, before we start, Mr Di Rollo and I got out of sync this morning and I have taken the opportunity to ask Professor James over lunch whether there would have been any difference between Scots practice and English practice in the recording of material on a death certificate, and I'm told there would not. The net result of that is, I think, that Dr Mutimer's advice that he would have put "sepsis due to pancreatitis", as the cause of death, and a list of other factors that he mentioned would have gone in part two as contributory factors.

If that's as you understand it, then that can be

recorded and that will deal with the matter as a matter of evidence. Is that acceptable?

MR DI ROLLO: I'm grateful to you for that, sir, thank you.

MS DUNLOP: I perhaps should mention, sir, that there is another letter to come, which touches on this. We will come to it later. It is a letter from Dr Petrie, a consultant cardiologist, but who was a registrar in the unit at the time, and he has contributed a paragraph on the cause of death and what he would have put on the death certificate, but perhaps we can just see that in its place when we come to that later.

THE CHAIRMAN: Yes, we can do that.

MS DUNLOP: The next, witness, sir, is Dr Kevin Robertson.

DR KEVIN WILLIAM ROBERTSON (sworn)

Questions by MS DUNLOP

THE CHAIRMAN: Sit down if you would like.

A. Thank you.

THE CHAIRMAN: Ms Dunlop?

MS DUNLOP: Good afternoon, Dr Robertson.

A. Hello.

Q. Hello. Your full name is Kevin Robertson. Is that correct?

A. Kevin William Robertson, yes.

Q. Thank you. And you are a consultant surgeon. You are now at Crosshouse Hospital. Is that right?

A. I was a consultant surgeon while working in Stobhill in 2003. I'm working as a speciality doctor at present at Crosshouse.

Q. Sorry, what are you doing in Crosshouse?

A. General surgery.

Q. Right. With what particular specialism?

A. I guess I would still be considered upper GI and pancreatico-biliary surgery.

Q. I'm not sure everybody can hear you.

A. Shall I say that again?

Q. Perhaps you had better.

A. Sorry. General surgery is my major remit but I would have an interest in upper GI and pancreatico-biliary surgery.

Q. Right. So I think we will take it a little further. I'm not sure the microphone is working terribly well but we will carry on as we are going.

I just wanted to clarify that a little bit because you said there was a difference between when you were at Stobhill and what you are doing now at Crosshouse. Is it more just a difference of terminology in your job description?

A. Yes, I think it relates more to the job description than to what my interests and surgical training are.

Q. Right. Because when we have read the material from

Stobhill that relates to Mrs O'Hara, we see you in your capacity as an upper GI specialist and it may be that you weren't formally described as that then, or am I getting it wrong?

A. I was appointed to Stobhill Hospital as a consultant general surgeon with an interest in upper GI surgery.

Q. So basically that's what you do and you continue to do?

A. Yes.

Q. Right, thank you. I should just ask you for the record when you qualified in medicine?

A. 1988.

Q. Right. Where did you study and where did you train?

A. I studied at Glasgow University and trained chiefly in the West of Scotland and latterly in Sydney, Australia.

Q. Thank you. While you were working at Stobhill, you looked after a lady, Mrs Eileen O'Hara?

A. That's correct.

Q. And we are enquiring into Mrs O'Hara's death in the Inquiry today.

The first document I would like you to look at is [OHA0011451], and that should appear on the screen in front of you. I'm sorry, there is a better copy of this but it may be it has a different number. I thought this would be the better copy. Something has gone wrong in the scanning but -- perhaps if we don't --

THE CHAIRMAN: I'm not sure it is going to be difficult. I think you can read through it.

MS DUNLOP: You can read it but it was just for the appearance of it, we did try to do something about that, and there is a better copy somewhere but perhaps we can persevere for just now. But this is a letter that you wrote in May 2003 to a general practitioner in Springburn. Is that right?

A. That's correct.

Q. And it is about Mrs O'Hara?

A. Yes, that's correct.

Q. We can actually see from the section at the end that in this letter to the GP, you have charted the course of her illness between 26 March and 7 May, and that included the last phase of her illness when she was cared for in the coronary care unit. Is that correct?

A. Yes, I have indicated the duration of her admission and also included the discharge, which I have noted as being on 7 May, and that she died.

Q. But perhaps strictly speaking you weren't responsible for her care when she was in the coronary care unit. Is that correct?

A. Yes, that's correct, yes.

Q. Right. But you wrote the whole letter really because you would always report back to the GP. Is that right?

A. Yes, you could make an argument, I guess, that I could have entered her time of discharge as being the time she was no longer under my care, but that seems inappropriate.
Q. If we look at the first paragraph of the letter, you say that she had epigastric pain and vomiting and her amylase had been 700 and then had risen to 1200. Is that seriously abnormal?
A. Yes, I can't recall offhand at that time what the upper limit of normal in Stobhill was but it would either have been 100 or 200. Acute pancreatitis is normally considered to be present with the symptom complex and an amylase of three times or more greater than the upper limit of normal.
Q. So is that actually specific for pancreatitis?
A. It is not absolutely specific and that's why I say that it must include an appropriate symptom complex. For instance, amylase is also produced in the salivary glands. So mumps can cause it to be elevated.
Q. And she had --
A. Cholelithiasis.
Q. I think I need to practise that a bit. Is that gallstone disease?
A. I'm not quite sure where we are in the letter. She had gallstones present in her gall gladder. She has

cholelithiasis, which is gallstones in the gall bladder.
Q. It was cholelithiasis that I was trying it look at in line 5. You say she became pyrexial and Mr McMahon had asked if you would become involved in looking after her, and you say you initially tried to manage her conservatively and reduce her INR. What's her INR?
A. It stands for international normalised ratio. It is essentially an indication of how easily the blood clots. INR is normally measured for patients who are taking warfarin medication.
Q. What was the thinking here?
A. Her INR, I believe, was elevated when I first saw her. My intention was that she proceed towards the ERCP, an endoscopic sphincterotomy I mentioned at the end of that paragraph. That's a procedure that can be associated with bleeding and I wanted her INR to be addressed before that was performed.
Q. We know actually, Dr Robertson, from having looked at her medical records, that she was on warfarin. I take it that that would be because of having had heart valve replacement?
A. Yes, that would be a good indication to take the medication.
Q. Right. You managed to stabilise Mrs O'Hara's condition and then you tell us in the following paragraph that

anaesthetic advice was that general anesthesia was not indicated. So how did you do it instead?

A. Sorry --

Q. The ERCP.

A. Yes, because we felt that general anaesthetic was inappropriate, we felt that one of the options for treating her presumed gallstone, pancreatitis, namely cholecystectomy, was inappropriate because that would require a general anaesthetic. ERCP, an alternative approach with sphincterotomy, can be performed under sedation and it was sedation that was used.

Q. I didn't quite understand what the thinking was behind the comment that she would be difficult or impossible to wean from the ventilator?

A. I think, in fact, one of my anaesthetic colleagues has documented that at one point in our notes. I can find a reference to that if you wish, but essentially what it means is that having induced a situation of artificial respiration to allow the surgery to be performed, part of that would include muscle relaxation, so the function of breathing is actually taken over by the ventilator machine. Sometimes it can be difficult to reverse that process for patients.

Q. What is it that can cause that difficulty in reversing the process?

A. Erm.
Q. To make the question a little more focused, with somebody like Mrs O'Hara, what would it be that might cause the problem?
A. For this lady -- again, if you would wish a particularly accurate answer to that I think you would need to speak to an anaesthetist, but from a general surgical perspective it would be the combination of medical problems that she had. We certainly knew that she had heart valve replacements and significant problems with cardiac function.
Q. Right. Actually, I do need to ask you to look at some documents. I apologise to those who haven't been warned of this. I forgot to remind the document team that we need to look at [OHA0011455], please.
My understanding is that it actually took you three attempts to deal with the gallstones. Is that correct?
A. Three attempts to perform the sphincterotomy, yes.
Q. So perhaps you could explain what it was, in terms that we as lay people can understand, that you were trying to do.
A. Okay. The supposition for this lady was that the gallstones that she had in her gall bladder, one of those or maybe more had migrated into the bile duct. The bile duct is a structure that connects the liver,

essentially, to the gut, and at its lower end it is joined by the pancreatic duct at the ampulla of Vater, an anatomical structure that is a narrowing. And at that narrowing a stone can become impacted and when that happens, it can upset the pancreatic gland, which cannot drain properly causing the pancreatitis. The aim of an ERCP and sphincterotomy was to cut the muscle that causes that narrowing at the ampulla of Vater, and thereby hopefully prevent further stones from causing a similar problem, allowing the stones to drop out into the gut rather than getting stuck at the ampulla.

Q. And in the sequence -- this is the first --

THE CHAIRMAN: I'm trying to get a little sketch. (Pause)

Professor James can give a short explanation that would cover all of this, if it be of any help. I'm not sure it is necessary. As I understand it, what you have indicated is that a stone can escape from the gall bladder, go down to the junction with the pancreas. At that point it can cause a blockage that can cause backing up into the pancreas?

A. That's correct.

THE CHAIRMAN: So what you are trying to do here is not just attack the stone and break it up, but actually to relax the muscular tension around that point so that further blockages won't happen.

A. That's correct.

THE CHAIRMAN: Is that ...?

MS DUNLOP: Dr Robertson, I was asking you to look at what I think is the note of the first attempt you made, and will you have composed this note or will it have been a junior member of staff?

A. I suspect it is me that has written it.

Q. And you have recorded that it was ERCP but it had failed?

A. That's correct, yes.

Q. Can you just, again in terms that we could perhaps try to grasp as lay people, tell us why it didn't work?

A. Surely. ERCP is a fairly technical intervention, which does normally have a fail rate. In this patient that risk was much greater because of her acute pancreatitis. That process can cause swelling of the mucosa, the lining of the piece of gut that houses the ampulla of Vater, the structure that I'm trying to operate on. It itself is probably about 5 millimetres across and the opening is about a millimetre or a millimetre and a half.

You are approaching that with a metre long scope, so the degree of access is quite difficult. So all in all, it is fairly difficult; made much more difficult in this situation because of the acute pancreatitis.

Q. Is this what we would call keyhole surgery?
A. No, it is a scope pass by the mouth.
Q. Can we then go, please, to [OHA0011454]. That's 7 April. 1454 is 10 April. Same team. This wasn't entirely successful either, was it?
A. No. Again partly for the same reasons, and more importantly here really because we had managed to make a cut into this muscular ring that I'm describing, the sphincter at the bottom of the bile duct or at the junction of the bile duct and the pancreatic duct. But in doing so we had caused what we had feared might be the case, and that's bleeding. That has been treated endoscopically, the 12 millimetres of 1 in 10,000 adrenaline is used to partly compress and partly to cause vasoconstriction and hopefully control the bleeding at that site. Because of that bleeding, and I think I have also noted there, because of some respiratory issues as well, the procedure was cut short.
Q. And you record that you had an anaesthetist standing by?
A. Yes, this was a lady who we knew was going to be difficult to manage because of her co-morbidities and it seemed sensible. Although there are two surgeons noted there, Dr Hoh is a very junior surgeon, who would not be able to do the ERCP procedure. So it is difficult for me to actually do the procedure in a patient who is,

while sedated, still conscious, and manage the anaesthetic side of that. So for all of these reasons it seemed sensible to have a consultant anaesthetist available.

Q. Right. Then finally, if we look at [OHA0011453], we have you, on 7 and 10 April, making an attempt and then this one, 1453, is 18 April, but I think on this occasion you were successful. Is that right?

A. Yes, that's right. I mean -- yes, the hesitation there on my part is that I would suggest that the preceding ERCP had started the process and this is completion of it, rather than one being completely unsuccessful and the last being completely successful. I'm not sure --

Q. I'm obliged. So it would be fairer to say that number 1, as you have recorded, was a failure, whereas numbers 2 and number 3 together achieved the desired result?

A. Yes. I mean, ideally it would have been done with one procedure.

Q. Right. Can we go back to where we were with the letter, please? So we would now be on [OHA0011451]. And we find you reporting all of this at the top of the page, page 2:

"At the last of these we were able to confirm clear duct system. It was a difficult time but Mrs O'Hara seemed to be making slow progress."

You'd asked for cardiological input and also input from the gastroenterologist in light of her decompensated cardiac and hepatic failure. I just wanted to ask you, doctor, we have seen the word "decompensation" a lot. It might be helpful if you could give us a little bit of an explanation of what doctors mean when they use that term.

A. Yes, in this instance we were aware that this lady had underlying liver pathology, namely that she had had Hepatitis C, and also that there was a degree of parenchymal change, probably cirrhosis, related to that, that is identified on the ultrasound scan that she had on her admission. Also we were aware that she had cardiac disease and that her heart function was not what might be expected in a similarly aged person who hadn't had the kind of heart problems that she had had.

What I mean by decompensation is that these conditions were normally medically controlled; particularly the cardiac disease would be medically controlled with medications. That control was impaired by her illness and decompensation, to my mind there, means that the hepatic and cardiac failure were less well controlled and therefore the symptoms that they might cause were more manifest.

Q. In the next paragraph you say that the good news was

that the pancreatitis seemed to resolve but there were numerous other medical problems. You say she developed a tense abdomen. Should the word after "marked" be "ascites"?

A. Yes, that's correct.

Q. A-S-C-I-T-E-S?

A. That's right, yes.

Q. And you think that was a combination of decompensated hepatic and cardiac failure and a degree of hypoalbuminemia. So a deficiency of albumin. Is that correct?

A. That's correct, yes.

Q. Further cardiological and gastroenterological help was received, but then you say she had marked lower limb oedema, particularly severe below the knee and that that caused cellulitis.

A. That's correct.

Q. We have had some explanation already that cellulitis can occur when there is a problem with fluid management, and the oedema, I take it, is the swelling due to fluid?

A. Yes, she would be more at risk of cellulitis. You can have cellulitis for other reasons, a skin cut or something like that can lead to an infection and cellulitis but, yes.

Q. Then there was an attempt to treat that with antibiotics

but that may have been the cause of a bactaeremia. That is, I take it, a high concentration of bacteria in the blood?

A. That's right, yes.

Q. You think that could have caused bacterial endocarditis.

A. To my understanding that diagnosis was not proven, although, again, the cardiologists that I know you are going to speak to may be better able to speak to that. However, it was raised on more than one occasion by my ITU and medical colleagues as a possible cause for her deterioration.

Q. If I tell you that one of the cardiologists involved, Dr Petrie, has recently given his opinion that the cardiologists thought bacterial endocarditis was unlikely, would you defer to them on that?

A. Absolutely, yes.

Q. And then you say there was the transfer to the coronary care unit and that Mrs O'Hara died on 7 May, and finally you record that she was able to attend her son's wedding.

A. Yes.

Q. You also provided a more recent report, which is with [PEN0100170], and actually, doctor, I think we have probably covered almost everything that you have set out in this report already. I did want to establish,

however, that in your first paragraph, you say you weren't very sure what it was you were supposed to be doing for the Inquiry but I think we have discovered that you didn't receive our letter. Is that correct?

A. That's correct. I didn't receive the initial letter, which I think was sent to Stobhill.

Q. I think perhaps, doctor, we lost you. We didn't realise that you were at Crosshouse and not at Stobhill. But in any event really, the question that the Inquiry was anxious to put to you was your view about whether you think Mrs O'Hara might have died when she did without having Hepatitis C at the time?

A. Right. Okay. I mean, I have formally responded to that in that report, saying that I'm not an expert on Hepatitis C, either the diagnosis, management or its complications. So I think anything I would say about that, that statement, needs to be borne in mind.

I think this lady had a rather complicated past medical history and if I'm honest to the Inquiry, even having looked at the notes in retrospect, I'm not entirely sure what the cause of death was and that makes it very difficult for me to make an authoritative and useful comment on that to the Inquiry.

Q. Yes. I think all that we were trying to put to you, doctor, was that knowing that you are not an expert in

hepatitis, if one took hepatitis out of the picture and looked at the remaining difficulties that Mrs O'Hara had in April and May 2003, what do you think the position might have been?

A. Okay. I think, you see, to my mind that's impossible to do because the Hepatitis C maybe caused cirrhosis, the cirrhosis is partly involved with the portal hypertension. Those problems would probably have had an effect on her cardiac function in the metabolism of cardiac drugs. It all becomes very complicated. I don't think you can easily take one element of illness away and consider the situation with only the others because they are all interrelated.

Q. I understand. Perhaps I can just suggest to you that the way it has been put is that the hepatitis -- and its effect on Mrs O'Hara's liver -- will have compromised her ability to respond to the infective illnesses that she had. Would you agree with that?

A. Right. I couldn't make a comment on that. I'm not aware of how that would affect her immune functions. So I'm sorry but I couldn't make an authoritative comment.

Q. It is quite all right, thank you, doctor.

I think you have charted the last period of Mrs O'Hara's illness very thoroughly. Perhaps the only thing I see that I did mean to check with you -- and

this is looking at the third page of this report, so if we could go on there, it will be 172. Do you have a hard copy in front of you?

A. I do have a hard copy.

Q. Perhaps I can just read it out, and I hope not disadvantage anyone. You say about two thirds of the way down the third page that:

"On 3 May Mrs O'Hara did deteriorate with increasing confusion and shortness of breath."

It was just:

"ITU admission was thought inappropriate."

I just wondered, can you remember why that was?

A. Again, this is an opinion that is expressed in the case notes in writing by one of the anaesthetists. We had a patient who was clearly moving in the direction of what we would call "multi-organ failure", and that is a condition that is associated with a high mortality rate. In that situation the intensive therapy unit allows advantages, including intensive monitoring, as well as being a good venue to provide support for various organs including respiratory support. And as you noted at the beginning of that paragraph, she had shortness of breath. Obviously as a surgeon I work closely with the anaesthetists and a regular port of call would be the ITU anaesthetist for a surgeon looking

for a second opinion or further input to the medical support of a patient who is possibly developing multi-organ failure.

We did also involve the specialists, the physicians and the cardiologist at that stage too. I guess I haven't quite answered your question there. The intensive therapy unit, it's a limited resource. They will tend to want to take patients that they feel they are in a position to help back to better health. I think they maybe felt in this instance that respiratory support was not something that was top of the list of requirements, and I think they maybe felt that it was more important that she had cardiac or cardiology assessment, and again I guess they had already expressed their opinion that were this lady to become ventilated, it might be extremely difficult to reverse that process.

Q. And hence the decision that she should in fact go into the coronary care unit, rather than --

A. Yes, I think that would be fair, although that wasn't my specific decision, but, yes.

Q. Thank you very much.

A. Thank you.

THE CHAIRMAN: Mr Di Rollo?

MR DI ROLLO: No, thank you.

THE CHAIRMAN: Mr Anderson?
MR ANDERSON: Thank you, no questions, sir.
MR SHELDON: No, thank you.
THE CHAIRMAN: Dr Robertson, thank you very much.
A. Thank you very much.
MS DUNLOP: The only other witness, sir, today is Dr Dunn, the cardiologist, and he is timed -- oh, he is here.
I was going to say that there are one or two odds and ends that I said I would come back to but it may be better just to press on with Dr Dunn if he is here.
THE CHAIRMAN: I think we deal with Dr Dunn and then we deal with other matters after that.

DR FRANCIS GERARD DUNN (sworn)

Questions by MS DUNLOP

MS DUNLOP: Good afternoon Dr Dunn.
A. Good afternoon.
Q. Could you, please, just tell us your full name?
A. Francis Gerard Dunn.
Q. What's your current occupation?
A. I'm a consultant cardiologist at Stobhill Hospital in Glasgow.
Q. Thank you. You were in that post in 2003, I understand, and indeed for some time before that?
A. No, that was my first year as a consultant, 1983.
Q. Sorry, right. In 2003 you would be a consultant at

Stobhill as well, and you say you started as a consultant?

A. 1983. That's right.

Q. And before that, you were, what, a registrar at Stobhill?

A. I graduated in 1970 and most of my training was undertaken at the Glasgow Royal Infirmary and I had two periods of research in the United States.

Q. Thank you. In your position as a cardiologist at Stobhill, did you look after a lady, Mrs Eileen O'Hara?

A. Yes, I did.

Q. She was a patient of yours. The first thing I wanted to ask, doctor -- and this is with the benefit of a document in front of you. If you could look at [OHA0012608]. This is a letter from Stobhill, in fact from a Dr Fraser in the cardiology clinic, to what I take to have been a general practitioner, about Mrs O'Hara. At the time she was pregnant but I noticed in it the sentence:

"She has rheumatic heart disease."

I think this may relate to having had rheumatic fever as a child.

A. That's right.

Q. I just wondered if you could give us a little bit of an explanation of that, please?

A. Yes, Dr Fraser was my predecessor at Stobhill and rheumatic fever was a fairly common disorder in Scotland in the 1940s and 50s in particular, and it usually occurred between the ages of five and fifteen, and it was about five times more common in women than in men, and the origin was the streptococcus infection.

Quite a significant number of patients who had rheumatic fever, that diagnosis was not made at the time because they were often diagnosed as having growing pains or other disorders affecting their joints. So many of these patients first presented, in fact, with the heart manifestations of rheumatic fever. Rheumatic fever could affect the joints but specifically affected the heart valves, and in Mrs O'Hara's case as in many other cases, it was the mitral valve, the valve between the two sides of the chambers on the left side of the heart.

Q. I take it that the illness weakened the valve, did it?

A. Yes, in those days, in the early days it would make the valve quite thickened and narrowed, so that the blood would not be able to flow through that valve adequately.

Q. Is that described as "stenosis"?

A. That's exactly how it is described, yes.

Q. I think we are learning a bit as we journey through this, doctor.

Could you look at [OHA0010899], please. This is another obstetric document, or a document relating to obstetrics, but someone has asterisked quite carefully there that Mrs O'Hara has mitral valve disease and that's the same as what we have just been discussing, is it?

A. Yes, it is.

Q. Next I wanted to ask you to look at a page [OHA0012520]. I'm doing this, Dr Dunn, because in your letter, which perhaps we could have as well -- if we could have that side by side, [OHA0012637]. There it is.

I should say, doctor, that this letter dates from September 2005 and it is a letter you provided in fact to Crown Office about Mrs O'Hara. Is that right? You had been asked by Crown Office to answer some questions?

A. That's correct.

Q. And you wrote back. It is just that I noticed you had said that you didn't have information about the operation in 1991. You say at line 4 of your letter:

"There is no information between 1990 and 1993 in regard to the second valve operation the patient had."

Just to say that this is a letter concerning the operation. It was to redo the mitral valve replacement, a St Jude bileaflet mechanical valve. Where does

St Jude come into it? Is that the manufacturer or is that the design?

A. That's the manufacturer.

Q. Right. So she had had that operation in October 1991. I think perhaps when you were commenting that you didn't have any information about that, you were meaning that you were trying to establish what blood transfusions Mrs O'Hara might have had over the years. Is that right?

A. Basically, just imagine this: she had her first valve operation in 1962, I think it was, a valvotomy, which was stretching of the valve, and then I looked after her up until the time of her first valve operation in 1985. Thereafter she was followed up at the Glasgow Royal Infirmary until 1994. So the post-operative follow-up was under the care of the cardiothoracic surgeons at the Royal Infirmary. So I didn't see Mrs O'Hara over that period of time. And her preparation for her second operation in 1991 was also undertaken through the Glasgow Royal Infirmary and when I wrote that letter, I was unable to get her Glasgow Royal Infirmary notes. So really I only could comment on the Stobhill notes that I had available at the time.

Q. I see. I wonder, doctor, if I could perhaps take

a slight short cut, which is to say to you that in relation to blood transfusions over the years, the Inquiry team has looked through the records and has found a reference to a transfusion before 1971, which might have been the valvotomy in 1963. So there is a reference -- it's in a letter from 1971 -- it says she has previously had a blood transfusion. Not specific but one might speculate that that would be in relation to the valvotomy in 1963. And then also in relation to a Caesarean section in 1972.

You covered this in your paragraph but I think I'm really giving you a little more information, that there is a reference to transfusion in 1972 and transfusion in 1979, the first being obstetric and the second being gynaecological, and then also a transfusion in 1985 in connection with the first valve replacement.

So you said in your letter that 1985 was the most likely time she contracted Hepatitis C but I take it when you expressed that view you didn't know about the 1963, 1972 and 1979 transfusions?

A. That's correct. I couldn't elicit that information but since then I have, to my own satisfaction, seen clearly that she had blood transfusions in 1972 and in 1979 but I still haven't been able to convince myself about the one in 1963, but that may have been the case as well and

I just didn't have that information, but there is no doubt that she had transfusions in 1972 and 1979 and also in 1985, and on review of the surgical operation notes from 1985 and some of the documentation there, it clearly shows that she had a blood transfusion, several units of blood, in 1985, around the time of her valve operation.

So therefore, I guess, on any of these occasions, it is possible that the virus was contracted.

Q. The valvotomy, and we should ask you because you are a cardiologist, but the valvotomy, we understand to have been an attempt to widen the valve. Is that right?

A. Yes, it was an amazing operation that the surgeons would actually widen the valve with their fingers, and they were very adept at doing this and it saved many lives of young women who were pregnant in Stobhill and other hospitals by this operation because without that these patients during the latter stages of pregnancy would develop severe congestion in their lungs. It was a very straightforward but skilful operation and frequently it would not require a blood transfusion.

Q. But sometimes it might?

A. Sometimes it might, yes.

Q. And does the heart continue to beat when the surgeon has got his fingers in the mitral valve?

A. Yes, there was no bypass procedure involved in that. It was really very much a feeling in. After that they developed a special type of dilator, known as a Tubbs dilator, but I had patients still who had these operations in the 1960s and have done remarkably well.

Q. Thank you. I have a better understanding now of what that involved.

THE CHAIRMAN: I think we need a little more. I suppose the chest was opened?

A. The chest was opened, usually under the left breast area, whereas major bypass operations, it is down through the sternum, but this was a much smaller incision under the left breast.

THE CHAIRMAN: Then is there a cut above the mitral valve itself?

A. Yes, to get entry from the fingers in, there is a little vent put in and the fingers are then put down, usually through the left atrium, and then the valve is widened up in a way.

THE CHAIRMAN: And then a sprint to sew everything up again quickly.

A. That's right, yes.

THE CHAIRMAN: Are fingers used nowadays?

A. No, valvotomy is now undertaken by interventional cardiologists where they can actually put a balloon in

now through a percutaneous procedure.

MS DUNLOP: I suppose to some extent, the success of the procedure is self-evident because in the 1960s and in 1972 Mrs O'Hara had four pregnancies and she didn't need her first valve replacement operation until 1985. Does that show us that --

A. I think that was often the case with that operation, that the patients would get a great result for many years.

Q. I think perhaps we could go to the second paragraph of your letter and you say the question of abnormalities in her liver function were first noted in Glasgow Royal in 1990. I think in fact there is a reference to abnormalities in 1984. I don't know if we need to go to this. Perhaps we should and I apologise because it is not on my list, but [OHA0012565]. Can we keep Dr Dunn's letter and just go to 2565, please.

It is really in the PS at the bottom. This is February 1984. There seemed to be some slightly abnormal measurements recorded there and some suggestion there may be a degree of hepatic congestion. I think in fact, that's the first entry that anyone has been able to find in the records. So perhaps you would accept that it is not 1990 but 1984 that we find the first mention.

A. I'm not sure whether that referred solely to the Glasgow Royal at that time.
Q. I see.
A. You know, it is likely that patients, purely as a consequence of their mitral valve disease, particularly if they are heading for an operation, will have mild abnormalities of the liver function.
Q. So we need to understand that that is very close to the operation in 1985?
A. It is, yes.
Q. And people might have thought it was connected to that problem.
A. I think it would be regarded as not unusual in the run-up to an operation.
Q. I see.
A. Because we knew that the pressures on the right side of her heart were significantly elevated in 1985 and that gives rise to back pressure on the liver.
Q. Can we look at [OHA0012486], please. This is your clinic. We see you at the top. This is a letter typed in January 1995. It is from a Dr Tait, who I think is a registrar, I can't remember, and the two of you had seen Mrs O'Hara together in the clinic. In fact, it looks as though you have had some discussions with Dr McLaren who is the diabetes physician. Is that

right?

A. That's correct, I think he in fact asked us to see the patient at the clinic and this was the first time we had seen Mrs O'Hara, I believe, since 1985, just before her first operation.

Q. Right. There is this reference to hepatosplenomegaly during routine clinical examination, and I suppose you are wondering, are you, at this time, if that is connected to heart problems?

A. I think Dr McLaren wondered whether it was related to heart but I think we felt, because of the success of her second operation and her satisfactory cardiac status at that time, that it was unlikely to be related to her heart, or solely related to her heart.

Q. Right. If we look at the second page, we see that Dr Tate, no doubt in consultation with you, has taken blood for various tests including a hepatitis screen. This is a question that I have already put to another doctor but it seems slightly unusual that a cardiologist is, as it were, directing investigations into whether or not someone has hepatitis.

A. I think that's probably a fair comment but I guess that the -- often we are gatekeepers to an extent for other specialities; we would conduct what we thought were the initial investigations that would perhaps clarify the

cause of her enlarged liver and spleen. So that would be fairly standard that you would think most of the doctors here will have trained in a broad general medicine basis and therefore be able to direct initial investigations before it gets to a specialist level.

Q. Right. Please don't think in anything I say that I'm being critical of what you actually did.

A. Not at all.

Q. It was just that it seems to be the cardiologist having to go above and beyond the normal role. But you have answered that.

[OHA0012475]. This is you in March 1995 and you have obtained a positive Hepatitis C result and you are going on to organise a biopsy, although we see that you have discussed it with your gastroenterologist colleagues. Then [OHA0012469]. Again, this is a report going from your department, saying that there has been an arranged admission for liver biopsy. I mean, was the liver biopsy actually done within your department?

A. Well, this was an admission to the ward, the cardiology ward or the ward that I had beds in, to continue the investigations. We weren't sure at that time -- I mean, I had a concern that this may have had a malignant source, for example, lymphoma. We really didn't know. So we had enlisted the help of haematologists and also

spoken to the gastroenterologists, and also the patient was on a drug called warfarin, which is critical for patients who have a metal prosthesis, which the St Jude was. So you have to watch these patients very closely when you undertake any biopsy or other procedure that might lead to bleeding. So you have to re-adjust the warfarin for as short a period of time as possible.

Q. You stopped the warfarin and started her on heparin. So heparin has a slightly different impact from warfarin, does it?

A. It probably has the same effect on keeping your blood thin but it is much shorter acting and it is given by a non-oral route, either through the muscle, or in this case the vein, and you can stop it very shortly before you undertake the biopsy and the effects are reversed. So that you can undertake. So they wanted her to have as short a period as possible of anti-coagulation, of which warfarin and heparin are two examples.

Q. I wanted to ask you about [OHA0012464]. I just wondered what these findings -- and this is November 1995 -- mean from a cardiology point of view. I'm looking at the last paragraph. You say she had a pulse of 72, blood pressure 170/70. Really from that bit onwards, what is going on here?

A. Right, well, the JVP refers to the pressure on the right

side of the heart. 2 centimetres is very borderline. That would be regarded really as not significantly elevated. In some patients who, especially those in whom the liver would be affected, you would expect the JVP to perhaps be 10 centimetres or above, and at times it can go right up to the angle of the jaw. So that in itself didn't indicate that the valve was struggling.

No significant oedema. There was no swelling of the lower limbs. Again, that would go along with a very high JVP as a sign that the right heart wasn't functioning properly.

"The cardiovascular examination revealed the right ventricular heave," suggests perhaps that the right ventricular pressure was slightly increased, but it is very difficult to assess that in patients who have had two bypasses, because the right side of the heart could be pushed more towards the sternum. So I think, I wouldn't necessarily deduce from that that the pressures were up.

And it says that the apex, which was left ventricular in character, suggesting that the left side of the heart was thickened and there was a murmur there, which presumably was a degree -- often you can still hear a murmur in patients who have had a valve replacement whether it is in the mitral or in other

positions.

So these cardiac findings would, depending on the last letter and so on, indicate their cardiac status overall was stable. We can see that her heartrate was 72 beats per minute, again indicating that the overall heart situation was stable. You know, once they start to struggle from the heart point of view, the heartrate would start to go up and you might expect, in a patient who is moving towards heart failure, a heartrate of 90 or 100 beats per minute.

Q. You referred to these two operations as "bypass operations". So when, in ordinary parlance somebody is described as having had a bypass, that can mean a valve replacement, can it?

A. Yes, there is confusion here. There's two bypasses going on in many patients. In coronary artery surgery, the vessels are bypassed by veins or other parts of arteries but in any kind of operation like a, you know, a coronary operation or a valve, there is a machine which bypasses the circulation and supports the circulation during the time that the surgeon is either transplanting the new vessels or putting in a new valve.

So the heart is at rest, it is not moving for a period of perhaps up to an hour while the operation is being undertaken. So it is confusing because the valve

patients all go on bypass; in other words, they are supported by this circulation outwith the body, whereas the coronary patients get, as it were, two bypasses. Their vessels are bypassed and they have a bypass machine.

Q. So broadly speaking, from a cardiology point of view, the findings in this letter, as at November 1995, are not concerning. Is that --

A. No, I think that we were reasonably happy really up until about 1998 that her cardiac status was fairly stable.

Q. We had better just look at the end of that letter. Can we turn the page, please and look at 2465, and actually SHO goes on to say that the cardiac symptoms are reasonably stable.

Then [OHA0011083]. This may be the development to which you were referring a moment ago. You mentioned 1998 but this is a letter from you to the general practitioner, talking about a hospital stay in May 1999, and you say she was in for stabilisation of really quite severe cardiac failure. And perhaps it is unfair to ask you when you don't have all the records in front of you, but what really do you think had brought this on?

A. Well, by this time it was -- I mean, the valves last a variable period of time, but it appeared that there

was starting to be some elevation of the pressure on the right side of the heart, leading to swelling of the ankles. And sometimes this can be reactive. It doesn't necessarily mean that the valve is the source of this. The patients often have a degree of elevation of the right side of the heart and the pressures -- at the time of the operation, this can be relieved, and then it can return, and the valve on the right side of the heart, known as the tricuspid valve, can start to dilate and this can give back pressure to give rise to failure, predominantly of the right side of the heart, and from my memory, the features were more of problems with the right side rather than the left side of the heart.

Q. She did move on to require replacement of the valve as we know in 1991. So to some extent will that have improved the picture that we see in this letter?

A. Although this was 1999. This was eight years after.

Q. Yes, sorry.

A. So -- I think at that time we felt that -- just to really try and stabilise her from the medical point of view.

Q. Right. And then in 2001, if we look at [OHA0012184]. This is your clinic again and Mrs O'Hara has had some chest pain. If you want just to look at the second page as well. Could you turn the page to 2185. Is this

really Mrs O'Hara presenting with angina?

A. Well, certainly there is discomfort. We knew from her previous angiograms in 1985 and in 1991 that the arteries, the coronary arteries were normal. So this makes it highly unlikely that between 1991 and subsequently she would develop coronary artery disease. Most people who have normal coronary arteries in their 50s and 60s, they will stay normal but they can still get a discomfort in their chest that is similar to the standard angina. For example, when the right side of the heart starts to weaken, you can feel a discomfort that's very similar, if you like, to the standard angina from narrowed coronary arteries. So this didn't necessarily imply that her arteries were narrowed, but it was a discomfort that was flagged up and she was given some spray to try and help that.

Q. Thank you, doctor.

Angina is actually mentioned in the letter and perhaps to a layperson, it tends to be associated with arterial blockage but you are explaining that probably not in this case?

A. Yes. It is usually the result of a lack of oxygen to the heart muscle and there can be a number of reasons for that. I think in her case, narrowed arteries would be one of the less likely reasons because we knew in

1985 and 1991 that her arteries were normal.

Q. Actually she has atrial fibrillation. Can you just explain that?

A. That's a very common type of heart rhythm disorder in patients who have valve disease. The atrium, the chamber at the top of the heart, when it enlarges, which it nearly always does in patients with valve disease, the electrical stability of that chamber starts to change, so instead of pushing the blood down into the main chamber, it just kind of flutters, and the blood still flows in but in a less effective way. It is a common disorder even in patients without valve disease and the important aspects are to try and slow the heartrate down because this type of rhythm gives you a fast heartrate, and also to protect the patients against clots, which she was already protected against because she was on warfarin. So she is likely to have had that fibrillation. I can't remember exactly but I would suspect that since her second operation she was likely to have had atrial fibrillation.

Q. Lastly, could we go to [OHA0011112], please. This is a letter to the general practitioner from 2002, and in fact it looks as though the angina, in the circumstances you have described to us, has improved. So much so that she is very rarely using her GTN spray. GTN spray is

for immediate relief of angina. Is that right?

A. Yes, that's right.

I think, perhaps just to highlight one point, that the -- I think there is probably a misprint in this letter. I think the dose of frusemide that she was on, I think it should have been 120 milligrammes twice a day. That is quite a significant dose. So although we were achieving stability, it was with quite a high dose of that particular water tablet.

Q. So where it says "frusemide 20", maybe it should be --

A. That should be 120, yes.

Q. Thank you. Actually the seventh problem in the list of diagnoses has been recorded as probably ischaemic heart disease and that is, I take it, for the reasons you have described to us, not anything to do with arterial sclerosis?

A. It is not necessarily coronary artery disease. Although in common parlance, people often use these terms synonymously but in fact you can have ischaemia with normal coronary arteries.

Q. Can I just ask you, just for more general information, about some procedures that patients might undergo and whether you would expect that they would receive plasma or other blood products in association with the investigation. The first one is echocardiogram.

A. You would not require anything for that.
Q. What about catheterisation?
A. Very, very rarely would you require any blood products for that.
Q. It does look as though, when Mrs O'Hara had an angiogram and a ventriculogram in July 1991, she did receive -- I think it is some plasma. Is that to be expected as well?
A. No.
Q. No?
A. There must have been some unusual event during that procedure that led to plasma being given.
Q. I see. Finally, Dr Dunn, I would like you just to have a look at a report from Dr Mark Petrie. This is [PEN0100157]. As we can see, that's emails in connection with Dr Petrie's letter. [PEN0100182] could we have, please, [PEN0100182].
Sorry, I didn't catch your answer, doctor, do you remember Dr Mark Petrie?
A. Very well.
Q. You know him and he has written on 23 February this year in relation to Mrs O'Hara's final illness really, in the coronary care unit in Stobhill. He tells us information which we have learned from other sources, that she had multiple medical problems. Just looking at the first

paragraph. She was not fit for admission to intensive care. She had a very poor prognosis. He says he looked after her from 4 May until 7 May 2003. I think at that point Dr Goodfield would be the consultant and Dr Petrie was his registrar. Is that correct?

A. Yes, I think that would be.

Q. Right. And then Dr Petrie has addressed what it was that was the cause of Mrs O'Hara's death, and he narrates that the infection, pancreatitis, and then that she had several longstanding chronic conditions: Hepatitis C, cirrhosis, longstanding diabetes and that she had had two previous mitral valve replacements. Dr Petrie goes on to say that the cause of her death was multi-organ failure, secondary to overwhelming sepsis. Her C-reactive protein was very high, as was her white cell count. We have learned that these are both markers of infection: the C-reactive protein and the white cell count:

"She had renal failure and worsening hepatic failure in the context of her overwhelming sepsis."

He says:

"In summary, this lady had overwhelming sepsis, felt likely secondary to pancreatic collection. She tolerated this poorly due to her longstanding liver and heart disease and developed new acute renal failure."

Does that seem to you to reflect the circumstances of Mrs O'Hara's death, that summary?

A. Yes, I think that's fairly accurate. Often in these situations -- I mean, acute pancreatitis is in itself a very severe illness and when the patient is afflicted with that and already has significant multi-organ difficulties, and in her case I think her diabetes and her extensive past cardiac conditions were put under the kind of stress with the pancreatitis, that while she was managing not too badly, the pancreatitis just led to a failure of these other organs. I think it is just an effect almost like a domino effect. If one system goes, then the next system goes under pressure and so on and so forth. So I would think that certainly the sepsis was the -- the result of the pancreatitis was what caused this.

So I would agree with that. I get the impression that on reflection, Dr Petrie felt that Hepatitis C should have been mentioned in the death certificate and I would agree with that.

Q. Thank you. I realise, Dr Dunn, that I have failed to put to you your other letter, which you sent, I think, on 22 February, 2011. It is [PEN0100114]. I think it may be Dr Dunn, that this should say "2011". You see, you are replying to a letter of 15 December 2010. So

perhaps it should be dated 22 February 2011.

A. I would agree with that.

Q. You will accept that correction, will you?

A. I was out of the country up until then, so I must have still been in 2010.

Q. Right. I think that letter was provided really because you had been asked to address any potential connection between the cardiac condition and the cirrhosis from which Mrs O'Hara suffered, and you go on to say that there is a condition known as cardiac cirrhosis, which people have if they have a failure or can have if they have failure of the right side of the heart.

But you say this rarely causes the classic cirrhotic pattern seen in primary liver disease and then you talk about the success of the second valve replacement operation, and that there will have been perhaps some more short-lived elevation of the right heart pressures. Then you go on to deal with the course of events from 1995.

You say there was no clinical evidence of cardiac failure at that time, that Mrs O'Hara's cardiac status was stable for several years, more or less up until the time of her terminal illness. We looked at the letter, 1083, relating to June 1999 and you interpreted that for us, and then you say -- and we have looked at this

too -- an entry in the case sheet in March 2002 indicated her cardiac situation was stable.

Then you say:

"It is my view that the patient's cardiac condition did not pre-dispose in any significant way to the development of cirrhosis."

Even having looked at the records again today, is that still your opinion?

A. Yes, I think it would -- it may have been a factor but not a significant factor or a major factor.

Q. You say:

"Finally, in regard to her terminal illness, I have no doubt that her co-morbidity was a contributing factor to the fact that she did not survive. A number of factors obviously were involved in this, including her diabetes, her cardiac status and her Hepatitis C."

It is difficult to dissect out the relative importance of all of these. I have tried a kind of lawyers exercise with Dr Robertson saying, "Well, if you remove one factor, what would have happened?" And he said you can't really do that because everything was interrelated. Would you associate yourself with that kind of view?

A. I have looked at this again, just reflecting on it, and I think there is no doubt these factors, each of them

would contribute a substantial increase, perhaps doubling. If we say that mortality from the pancreatitis was, say, 7 to 10 per cent, I think each of these factors would add another 10 per cent, perhaps not the diabetes but her cardiac status and her hepatitis would each, in my view, contribute another 10 per cent to decreasing her likelihood of survival.

So whereas it would have been say 10 per cent, it might have gone to 20 per cent because of the presence of Hepatitis C and because of her cardiac failure, but that's not an exact science. I have discussed this with experts on pancreatitis and that was their kind of sense from hearing the situation, that that would be the kind of impact of these additional conditions on her survival.

Q. I think perhaps the easiest metaphor for us as, lay people, to understand is the domino principle. The pancreatitis started a chain of events and these other conditions feature in the chain.

A. I don't use that term disrespectfully but it does, I think, allow people to understand the effect that one event has on subsequent events.

Q. Thanks very much, Dr Dunn.

THE CHAIRMAN: I wonder if I could be clear on this, doctor.

If it is a domino effect, each domino has the same

value; they all fall over progressively. Do these factors operate in an arithmetical progression or is it geometrical? Does each double or, what, the impact of the disease.

A. I think it depends on -- factors which might otherwise be insignificant then start to become significant. For example her diabetes, you know, which would be reasonably well controlled, once you get sepsis, then the likelihood of distant infection. For example, I believe this lady had a cellulitis latterly in her illness and the diabetes would make her more prone to that.

I think it is difficult to put an arithemetical or geometrical sum on it but I think it is more this what we call multisystem failure or, you know, patients who are coping reasonably well until they get an acute insult like pancreatitis and then several bodily systems start to -- especially if you have got two systems that are significantly compromised in advance of the pancreatitis, then the advent of that then puts them under difficult duress.

THE CHAIRMAN: I think I could see that in some way I might be more comfortable with the notion of something that wasn't arithmetically based, because the realities are perhaps that one can't analyse out in arithmetical or

mathematical terms the impact of the several factors. But one knows that, because there are more, you have got an accumulation of problems that increase significantly the mortality risk.

A. I think, yes, I would agree with that. I think we have to watch when we start to put percentages on it because it is very much a sense rather than actually something that's based on any modelling, any accurate modelling.

THE CHAIRMAN: Are you content with that?

MS DUNLOP: Yes, indeed.

THE CHAIRMAN: Mr Di Rollo, did you wish to ask any questions.

MR DI ROLLO: No, thank you, sir.

THE CHAIRMAN: Mr Anderson?

MR ANDERSON: No, thank you, sir.

THE CHAIRMAN: Mr Sheldon?

MR SHELDON: No, thank you, sir.

THE CHAIRMAN: Dr Dunn, thank you very much for coming.

We will have a little break and then come back to your tidying up.

(3.29 pm)

(Short break)

(3.53 pm)

THE CHAIRMAN: Ms Dunlop, before you start on yours, perhaps I should take up just where I ended off speaking to

Dr Dunn and say why.

As I understand it, a person who has severe pancreatitis and is over the age of 70 probably has a 10 to 20 per cent mortality at that stage. It is a severe condition. At the other end of the spectrum and not necessarily involving pancreatitis, I understand from Professor James that a person who has serious compromise of three or more organs has a high mortality risk and indeed it may be very difficult to measure the prospects of success in hospital treatment.

So if one has a person going into hospital with pancreatitis that can lead to sepsis, the question arises whether the multiplicity of compromised organs should be looked at as additive features, as it were, each making a contribution of, let's say, 10 per cent, which was the figure, or whether the proper way to look at it is that cumulatively they have a very significant impact upon mortality.

So you can't break it down into 10 per cent hepatitis. Hepatitis is part of an overall picture and has the same value, as it were, cumulatively, with the other elements, increasing significantly the mortality risk of the patient.

That's why I was trying to avoid the domino effect and look at the total. Now, I don't know if that helps.

In a sense it increases the importance of hepatitis as part of the package and it may help Mr Di Rollo, but I don't know if that's consistent with what you understand the position to be.

MS DUNLOP: Well, we would like to reflect, I think, on it a bit more, but my only observation would be that talking about a 10 per cent, 20 per cent, 30 per cent chance of mortality might be acceptable in an epidemiological sense, if one was looking at 100 patients, but we know that for this person the chance was 100 per cent because she did die.

THE CHAIRMAN: With the greatest of respect, that's the event, not necessarily the prospect and there can be a difference between risk and event.

MS DUNLOP: Well, for whatever reason --

THE CHAIRMAN: But for whatever reason.

MS DUNLOP: -- Mrs O'Hara's chance was very much higher than 10 per cent, 20 per cent or 30 per cent --

THE CHAIRMAN: Well, you can all contemplate this proposition and see whether it is helpful or not. If it is necessary to take it up, then I can make help available, to give you an expert view on it rather than my attempt at summarising it.

MR DI ROLLO: Could I just ask one question of Professor James really or just generally? Is there any

link between Hepatitis C and pancreatitis?

PROFESSOR JAMES: Very, very remote, if at all. There is a very plausible, indeed probable, cause, if I may say so in her gallstones already. So I don't think one needs to invoke, sort of cast around for, any other cause.

Very briefly, if I may, if I could supplement what Lord Penrose has said and try to, by proxy, defend myself against Ms Dunlop, what I was trying to get around to was Mrs O'Hara went into hospital with a condition which a person over the age of 70 who has severe pancreatitis, actually, in Glasgow, statistically -- because they have done studies in Glasgow of acute pancreatitis over many years -- has, from memory, very approximately, a one in ten chance of mortality, leaving aside everything else.

Actually, the main complication, as we heard, of the pancreatitis, is sepsis. She had two organs already compromised very significantly when she went into hospital. They were both working but limping along; her liver from the Hepatitis C and her heart from the valve problems that you have heard about.

So when things went at all wrong through no fault of anybody's, in the nature of things, then immediately that sepsis had a very bad effect on at least those two

organs. And immediately, without being numerical about it, you can see that her risk of surviving, which ended up as nought, was vastly increased. That's the point that I think I tried to advise Lord Penrose about. I thoroughly apologise to all my learned colleagues if that was too big an intervention.

THE CHAIRMAN: I don't think I want my more comment at the moment. You can ponder on these things, ladies and gentlemen, and we will see what happens.

I'll do what I ought to do and let you get on.

MS DUNLOP: There are two things, sir, I still need to cover. One is brief and one is, I am afraid, a little bit complicated, especially for this point in the day.

To take the brief one first, there is a letter, [PEN0010025]. All I really need to do is tender it. It is a letter from a Dr Sheila Cameron at the West of Scotland Specialist Virology Centre, dated 3 December 2010. Dr Cameron is one of the two people whose names appear on the 1990 Hepatitis C test and the Inquiry contacted Dr Cameron to ask about that test and it is really just item 1 in Dr Cameron's letter that matters. She says:

"December 1990. This test would have been carried in the ortho 1st generation ELISA when I was employed as a principal clinical scientist at the Virus Laboratory

at Glasgow Royal Infirmary."

Then her interpretation section at the bottom of that page says:

"This was the first HCV antibody test. It was introduced in 1989 and was of limited sensitivity and specificity, ie there were false positives and false negatives. No confirmation test was available in our laboratory at the time. I would not exclude HCV infection on the basis of this result. There is a wealth of published data which supports this view."

Indeed, tomorrow we are going to hear from Dr Dow about which genotypes were more likely to be missed by the first test. It would be ideal if we could say "and Mrs O'Hara's genotype was", but we don't have that information, and as far as we have been able to discover her Hepatitis C was not genotyped.

So that's Dr Cameron.

THE CHAIRMAN: That's fine. Do the others understand where you are going with this distinction as among genotypes and the relationship to the ELISA tests that were available?

MS DUNLOP: I think Dr Dow will explain it all tomorrow and I think it might be better to wait and let him do it. He has got a better grasp of it than I have.

THE CHAIRMAN: It is potentially quite difficult.

MS DUNLOP: Yes, it is extremely difficult.

THE CHAIRMAN: And even a hint might help the others to see where they are going but I'll leave that to you.

MS DUNLOP: The other thing is just to finish the exercise that I started this morning in relation to the various transfusions. We need to look first at [PEN0010032], and you will see, sir, that this is a document headed "The late Mrs Eileen O'Hara. Blood transfusions and Hepatitis C, SNBTS response, January 2011."

The passage in bold is an extract from a letter sent by a member of the Inquiry team and then the first bullet also comes from the letter, which is in italics:

"We understand ... Mrs O'Hara was given a blood transfusion ..."

This is the information which is apparent from the records and should, if all is going well, match what we looked at this morning. In relation to where this information was found.

One unit was transfused:

"We realise that transfusion took place many years ago."

Then the paragraph in times new roman comes from the blood transfusion service:

"Mrs O'Hara was transfused with one unit of B negative blood on 31 March 1972, bottle number 5209.

The donor of this unit of blood has been identified. This B negative unit was donated at Lockerbie on 5 March 1972 and issued to Stobhill ... on 25 March. The SNBTS have no record of this donor being Hepatitis C tested."

Of course, sir, that perhaps was a bit of a long shot but if this had been a donor who returned after 1991 and had given a donation and had been tested and been found to be Hepatitis C positive, then it would be possible to pinpoint the source of the infection but that has not been possible.

The second is in relation to the 1979 transfusion, which you will recall, was hysterectomy surgery. Again, the extract from the letter appears in italics and then Mrs O'Hara was transfused with one unit of whole blood and one unit of packed cells on 28 November 1979. The donors of these units have been identified. The B negative unit, 142610, was donated at Coatbridge on 20 November 1979 and issued 27 November. No record of this donor being Hepatitis C tested. The unit of packed cells was donated at East Kilbride on 19 November 1979 and issued to Stobhill on 27 November. No record of that donor being tested either.

Turning the page, 1985 -- and you may recall, sir, that this is a situation in which five packs of

concentrated red cells were identified -- the answer is that Mrs O'Hara was transfused with five units of concentrated red cells on 5 June 1985.

Actually, I think from examination that we carried out, the actual transfusion, that was, as it were, the reservation of the material rather than the actual transfusion because the surgery was 7 June. Anyway, no matter:

"The donors of these units have not been identified because the pack numbers of these units quoted above are numbers allocated by Glasgow Royal Infirmary. Previous enquiries to GRI have shown they are unable to provide a cross-reference from their numbers to the SNBTS pack numbers. Without such cross-reference, we are unable to trace the donors."

The next answer relates to HPPF. No batch number was recorded. There is some information which is perhaps more familiar to us, that human PPF is an albumin product prepared from a large batch of plasma: All human plasma protein fractions prepared according to the monograph contained in the British Pharmacopeia, which includes pasteurisation. Ten hours at 60 degrees.

Then there is a possible transfusion with a unit of plasma:

"No batch number was recorded and the donor of that

unit can't be identified."

In 1991 the catheter studies in a transoesophageal echocardiogram, and the Inquiry says:

"We would assume these products would not have involved a transfusion. We would appreciate if this could be confirmed."

And I did actually ask Dr Dunn about this and he said not in the ordinary course of events, he wouldn't expect there to be transfusion.

Then 24 July 1991, which is associated with the angiogram and ventriculogram, Dr Dunn said you wouldn't normally expect a transfusion of products. So there must have been some particular reason for it and the donation has been tested and found to be Hepatitis C negative.

And then the answer on that:

"24 July 1991. With one unit of fresh frozen plasma. This unit was first tested at the time of collection, 11 July, and was Hepatitis C negative."

In fact, there has been further testing in 2008 and then there is further research but I would suggest, sir, that as we get further on, on to the 1990s, these results are really not relevant because all the evidence suggests that the 1990 test was a false negative.

After that some more questions were posed. I don't

think we need to look at it but for the record, the email in which further questions were posed is [PEN0020762], and there is a supplementary response which is [PEN0020760]. This is February 2011. We do need to look at that.

This is back to 1985 and the Glasgow Royal Infirmary pack numbers. The Inquiry asked to be provided with more information on why Glasgow Royal Infirmary couldn't provide a cross-reference. And indeed, also suggested another mode of enquiry which would be to follow up the fact that Mrs O'Hara had a relatively rare blood type, B negative. We are told again that the donors of the five units of blood couldn't be identified because of the inability to cross-reference the Glasgow Royal Infirmary numbering system and the SNBTS number.

Then this suggestion of using the blood group didn't work either. It was before the introduction of a computerised system known as LABLAN and the paper records from that period don't still exist.

Then the plasma. Again, there is a problem with not being able to recognise the number.

THE CHAIRMAN: So what are we to understand, and no doubt Mr Anderson will help us understand it fully in due course? We have SNBTS number as part of a coherent system covering the blood transfusion system as a whole.

Blood is delivered to the hospital blood bank, and in this case Glasgow Royal Infirmary abandons the inheritance and puts on new numbers that cannot be traced back to source. So there is a significant break in the chain.

MS DUNLOP: Well, there is more.

THE CHAIRMAN: There is more?

MS DUNLOP: Yes.

THE CHAIRMAN: In the same direction or is it going into reverse at any stage?

MS DUNLOP: I don't know what direction you would call it.

I think it is a complete standstill but it represents another attempt. The document we have just been looking at also covers, on the other page, the 1991 products, which again was a bit of a dead end. It didn't give us an answer, but, as we said earlier, it is perhaps not really relevant.

Then we should look at [OHA0012676]. This letter has not been written specifically for this Inquiry but it relates to October 1991. In the second paragraph it says:

"There are records dating back to 1985 which indicate we issued five unit of red cells. It was in Ward 66. we don't have records to tell us ..."

In fact, the medical records seem to suggest they

were all used. So this letter from Dr Tait doesn't really take us any further, but finally, in [PEN0100074], there having been, I suppose, a rather insistent focus on the 1985 episode. Can we look at page 2? Just to explain. It is perhaps obvious but this is a copy of the original letter from 10 December 2010 with answers interlined in it. If we look at the second page, there is an explanation which is:

"It certainly looks as if all five of these units were transfused. At the time, Glasgow Royal Infirmary blood bank used a mini Apple PC which did not recognise SNBTS barcode donation numbers, hence we generated our own. We think these GRI barcode numbers could be tied in with SNBTS numbers by looking at either the original request form or possibly ledgers completed for blood issue on a daily basis. However, a summary of data held by GRI blood banks suggests we only have request forms from 1988 onwards and we only have ledgers from 1968 to 1984."

That, I suspect, sir, represents the end of that particular enquiry, that it is really a two-part answer; that there was an incompatibility of computer systems at the time and the matching-up, the keying across of one numbering system to the other might have been possible

at one time from other records but the other records no longer exist.

It is more than 25 years ago.

There is some further discussion for 1991 procedures but perhaps we could just leave that for people to read for their own interest because I don't think the evidence really points to anything in 1991.

THE CHAIRMAN: Well, Mr Anderson, I think that you might take note that accountability is a matter in which I have some interest in this Inquiry, and I seem to have a hazy recollection of a report by Dr Wallace in the 1970s lauding the effectiveness of Glasgow's system of tracing blood as collected, issued and used on patients by use of punched paper tape, computerisation, which you won't remember but which I do as a young auditor trying to audit advanced companies' books. So if there had been a comprehensive system that broke down, I would like to know about that. Indeed, I would like to know all about the systems of recording which appear, at the moment at least, perhaps to have some holes in them.

MR ANDERSON: No doubt that will be looked into.

THE CHAIRMAN: Thank you very much.

MR ANDERSON: Very thoroughly.

THE CHAIRMAN: Ms Dunlop, is that the end of today's --

MS DUNLOP: There is no further evidence to present in

relation --

THE CHAIRMAN: I think we can reasonably adjourn until tomorrow. Thank you all very much.

(4.17 pm)

(The Inquiry adjourned until 9.30 am the following day)

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