



## **FINDING OF INQUEST**

*An Inquest taken on behalf of our Sovereign Lady the Queen at Adelaide in the State of South Australia, on 16 March 2001, 19 March 2001, 20 March 2001 and 27 March 2001, before Wayne Cromwell Chivell, a Coroner for the said State, concerning the death of Dawn Ruth Roach.*

*I, the said Coroner, find that Dawn Ruth Roach, aged 45 years, late of 6 Courageous Way, North Haven, South Australia, died at The Queen Elizabeth Hospital, Woodville South, South Australia, on the 22<sup>nd</sup> May 1998 as a result of multi-organ failure due to septicaemia and peritonitis due to faecal leakage from the large intestine following the failure of a loop colostomy created to deal with a leaking anastomosis following surgery for removal of a carcinoma of the distal sigmoid colon. The circumstances of death were as follows.*

### **1. Introduction**

- 1.1. Dawn Ruth Roach died at The Queen Elizabeth Hospital ('TQEH') on 22 May 1998. She had previously undergone several abdominal surgical procedures in an attempt to treat her bowel cancer.
- 1.2. Due to concerns raised by Ms Roach's father, Mr Reg Brown, the quality of medical care received by Ms Roach during her illness has been examined during the inquest.

### **2. Background**

2.1. On 20 March 1998, Mrs Roach consulted Dr Kheong Khoo, physician and gastroenterologist following complaints of rectal bleeding. Dr Khoo performed a colonoscopy which revealed the presence of a polyp and this was removed. Histology disclosed the presence of malignancy, which had extended to the margins of the area of excision. In case the cancer had spread further, either into the bowel or to the nearby lymph nodes, it was recommended that the part of the colon involved should also be removed. (T8).

2.2. First admission

Dr Khoo referred Mrs Roach to TQEH where she underwent a laparoscopic sigmoidectomy on 8 April 1998, performed by Mr Peter Hewett, Head of Colorectal Surgery. Mr Hewett said that a decision was made to operate laparoscopically ‘in an attempt to reduce her post-operative pain and decrease the length of stay in hospital’. (T9).

2.3. During the laparoscopic procedure, which was being performed by Dr Kayser, a Senior Registrar, under Mr Hewett’s direct supervision, difficulties were experienced when the lumen of the rectum was inadvertently perforated. Mr Hewett took over, and the operation was converted to an ‘open’ procedure, whereby a midline abdominal incision was made so that the area could be viewed directly rather than through the laparoscope. Mr Hewett said:

‘I was unhappy that I was unable to control any possible spillage of faecal fluid from that area using laparoscopic techniques’. (T26).

2.4. The part of the colon thought to be diseased was removed, and an anastomosis (join) was performed using a stapling device. Mr Hewett explained:

‘Once the colon was removed, an anastomosis was performed using a stapling device and it was noted that the – an area where the bowel had been stapled together was deficient and therefore this area was repaired and reinforced with four 30PDS sutures, and a further test showed the anastomosis to be intact with a good blood supply and no obvious tension on the join and then the operation was completed by suturing all the incisions’.

(Exhibit C4, p3-4).

Mr Hewett confirmed that the anastomosis was successful by introducing saline solution into the abdominal cavity, and then putting air into the rectum and checking for air bubbles. (T12).

- 2.5. Mr Richard Sarre, Senior Visiting Colo-Rectal Surgeon at Flinders Medical Centre, who reviewed this case at my request, commented:

‘I have no concerns regarding the decision to operate or the conduct of the procedure’.

(Exhibit C6, p1).

Mr Sarre pointed out that Mr Hewett had more experience in such laparoscopic procedures than anybody else in Adelaide. (T71).

- 2.6. Post-operatively, Ms Roach developed a high temperature (38.7°), and a high white cell count (18.5, normally less than 10) indicating an infection. Intravenous antibiotics were instituted on 17 April 1998. (T13-14).

- 2.7. On 20 April 1998 Ms Roach developed another fever (37.9°). A CAT scan was performed. Some changes were noted, but no anastomotic leak or abscess was identified. (T13).

- 2.8. Ms Roach was discharged on 21 April 1998, having been without fever for 24 hours. Although her white cell count was still elevated (15.9 on 20 April 1998) it had improved from previous days. Mr Hewett said that Ms Roach:

‘... felt well, she was tolerating solid food, she could move around quite normally without assistance. Her bowels were working, she had some diarrhoea at times and she had no urinary symptoms’. (T14).

- 2.9. Mr Sarre commented that a discharge in those circumstances was ‘quite reasonable’. (T73).

2.10. Second admission

Ms Roach was readmitted to TQEH on 30 April 1998. She had been feeling increasingly unwell, had felt weak, nauseated, and she had vomited that day, developed low abdominal pain and then passed some clotted blood through the rectum.

- 2.11. Gastrografen enema and CT scan confirmed the clinical diagnosis made by Dr Whalan that there had been an anastomotic leak. Mr Hewett described it as a

‘contained leak’ in that surrounding tissues had prevented the bowel contents and pus from spreading throughout the abdominal cavity. It had formed a collection about 1.5cm in diameter, near the anastomosis. (T15).

- 2.12. Mr Sarre described such an anastomotic leak as a ‘recognised complication of bowel surgery’, quoting a study which demonstrated that it occurred in 8% of cases. (T15). Such a condition does not necessarily require immediate revision. He said that if the condition remains asymptomatic, then observation is all that is required. If, however, there are signs of ongoing infection, then:

‘... that involves either draining it adequately to the surface by taking the anastomosis down and bringing the end of the bowel up as a colostomy or forming a colostomy higher up to stop the faecal matter (getting) past it’. (T76).

- 2.13. Although Ms Roach’s condition improved somewhat on 1 May 1998, Mr Hewett remained concerned that her blood tests revealed abnormalities, particularly in relation to liver function, haemoglobin and clotting. Mr Hewett said that an option considered on that day was to operate again, drain the abscess, and perform a colostomy to try and defeat the infection. However, since Ms Roach had improved to the extent that she wanted to leave hospital, and she was reluctant to have a colostomy unless it was ‘absolutely necessary’, it was decided to treat her conservatively and monitor her progress. Mr Hewett said it was possible that the condition would right itself. (T16-17). If her condition had not improved in the next 24-48 hours, his approach would have been the same as Mr Sarre suggested. (T31).

- 2.14. It could be that Mr Hewett was not sufficiently ‘pro-active’ at this point. Mr Sarre thought that Ms Roach’s condition at that point called for a more interventionist approach. He said:

‘Having established the diagnosis which I think was done quite promptly, I would have thought that there wasn’t much role for continued observation. If she otherwise appeared quite well, you might treat her with intensive antibiotics and bowel rest and see whether that improved the situation but I think with a sizeable collection there and with somebody who wasn’t thriving, I would have moved fairly quickly to establish a colostomy and probably some form of drainage of the abscess.’ (T76).

Having said that, he acknowledged that it is ‘difficult to know’ what he would have done in retrospect, as much depended on her clinical state at the time.

Having regard to Ms Roach's clinical state at the time (he had to convince her not to go home), and the understandable reluctance to have a colostomy, I accept the submission of his counsel, Mr Livesey, that Mr Hewett should not be criticised for not operating before he left.

- 2.15. Mr Hewett was absent from 2 May 1998 until 19 May 1998. Associate Professor W Roediger assumed responsibility for the patients on the ward on 1 May following a joint ward round. Mr Hewett said that at that time, Ms Roach still had some tenderness in the left abdomen, but she did not have a temperature. (T18). He said that he discussed the low blood count, low clotting factor and abnormal liver function with Associate Professor Roediger during, or immediately after, that round, and expressed the view that they were due to infection and sepsis. (T19, T32).
- 2.16. Ms Roach's condition remained a concern after Mr Hewett's departure on leave. She continued to demonstrate the metabolic abnormalities mentioned above on 2 and 3 May 1998.
- 2.17. A further CT scan was performed on 4 May 1998 which again demonstrated the presence of a pelvic abscess, so Associate Professor Roediger decided to perform a loop colostomy on 5 May '... to divert the faecal stream away from the leak so that further sepsis would cease ...'. (Exhibit C5, p2).
- 2.18. The best site for the colostomy had been identified by a stomal therapist on 5 May 1998, prior to the surgery. The entry in the casenotes reads:

'Sited for loop stoma, unable to site in right upper quadrant due to body creases and folds – have selected high right iliac fossa site'

(Exhibit C4a).

- 2.19. The loop colostomy was to be performed by Dr David Berry, the duty surgeon. Dr Berry is now a consultant surgeon at the Leicester General Hospital in the United Kingdom. In his letter to Senior Constable N R Elliott of the Coronial Investigation Services, Dr Berry described the operation as follows.

'6. A transverse incision was made. The transverse colon was identified. The omentum was removed from a short segment of mobile transverse colon. The transverse colon at the time was found to be very adherent within the

peritoneal cavity. The transverse colon was opened longitudinally. The defect in the rectus sheath was closed with loop No 1 Prolene. The colostomy was formed using 2/0 chromic catgut over a plastic bridge, which was not sutured in place.

7. The stoma was sited in the right upper quadrant, as I felt that this was the best position due to the patient's body habitus and the availability of sufficient transverse colon to form the colostomy.
  8. I am unable to recollect whether or not the preferred site for the stoma was marked before the operation.
  9. I was not involved in this lady's postoperative care in any way. Details of the stoma were not discussed with me.
  10. I did not suture the bridge in place, as a loop colostomy is rather bulky and in order to achieve a good seal from the stoma bag, it is often necessary to place the bridge inside the stoma bag. Clearly this is not possible if the bridge is sutured to the skin. It was therefore my decision not to suture the bridge in place.
  11. I did not have any further involvement in Ms Roach's care following her surgery and was not involved in her postoperative management at all.'
- (Exhibit C3b, p2)

2.20. Associate Professor Roediger commented that it is not surprising that the stoma was not placed where the therapist indicated. He said:

'The stomal therapist places a mark which is ideal for the patient to manage her colostomy, but on occasions when one does a colostomy it's not possible either to reach that mark or because of other constraints such as adhesions, it's not possible to bring the colon to the particular designated area.'

(Exhibit C5, p3).

2.21. Dr Berry did not advert to having encountered any of these difficulties in his letter. He suggests, rather, that he sited the stoma where he considered it 'best suited Ms Roach's body habitus'. Mr Sarre was somewhat critical of this approach, saying that:

'... it's much more satisfactory to mark it pre-operatively than to try and guess when the patient is lying flat on their back ... '. (T78).

As it happened, Dr Berry had sited the stoma in a deep body fold, as I will mention shortly.

- 2.22. It is noteworthy that there was no attempt to drain the anastomotic site on this occasion although, in retrospect, Mr Sarre said that it ‘would have been a good idea’ (Exhibit C6, p3). However, as things stood at the time, he was not critical of this.
- 2.23. There are indications that the colostomy was also poorly constructed in two ways. The stomal therapist commented on 6 May 1998 in the casenotes that the site was not ideal and did not appear well-formed. She noted:

‘RUQ loop colostomy – sited within deep fold. Stoma dark red, under tension. Mucutaneous bridge in situ. \*NOT SUTURED\* Please take care if appliance needs to be changed that bridge is not removed’.

(Exhibit C4a).

Associate Professor Roediger was unable to comment on the state of the stoma. He said that he didn’t examine the stoma as it was ‘covered by a big bag’. (Exhibit C5, p4). He must be taken, then, to have accepted the observations of the nurse in the casenotes.

- 2.24. It was clear from the evidence of each of the witnesses that a colostomy should not be under tension. Both Mr Hewett and Mr Sarre told me that Dr Berry should have performed a midline incision in Ms Roach’s abdomen through which the bowel could have been mobilised sufficiently so as not to be under tension, then brought out through a small, circular incision (see T34, T79). Because Dr Berry mobilised the bowel through the transverse incision, he was not able to free it up enough, and it was still under tension after the operation. An added benefit would have been that Dr Berry could have drained the abscess at the anastomosis site through a midline incision as well. (T80).
- 2.25. Compounding this problem was the fact that Dr Berry did not suture the bridge in place. The bridge is an implement which is placed under the intestine in order to keep it in contact with the surface skin, to encourage healing between the two surfaces. It is a standard surgical practice in Australia to ensure it is not dislodged. The note of the nurse quoted above indicates her anxiety about this possibility.

2.26. Associate Professor Roediger conceded that Dr Berry's failure to suture the bridge in place was 'a little difficult to accept'. (T50). Mr Hewett said he was unable to think of a reason why this would not be done. (T28).

2.27. Mr Sarre commented:

'If you can bring it to the surface with sufficient laxity that it just sits there anyway, you may not even need to use a bridge, you just suture it to the skin. That would be my preferred option, not to use a bridge at all but that requires having a body build and loose enough bowel to bring up so it actually just sits above the surface without the tendency to fall back in.' (T81-82).

2.28. Mr Hewett said that on the basis of the stomal therapist's note of 6 May (particularly that the tissue was dark red in colour and was under tension) there should have been an immediate revision. (T35).

2.29. Associate Professor Roediger disagreed, saying that Ms Roach was so unwell (she had jaundice, was malnourished, febrile, and her blood clotting factors were down) that a further operation would have been hazardous unless it was clearly indicated – for example, by separation of the margin of the colon from the skin, or loss of blood supply to the tissue. (T51).

2.30. To put in mildly, I find this evidence surprising. The separation of the margins of the colostomy would result in spillage of the bowel contents into the abdominal cavity, which would have caused generalised peritonitis, a life-threatening event. To wait for such an event before acting does not seem to accord with common sense.

2.31. Mr Sarre was also critical of the decision not to operate to revise the colostomy at that stage. He said:

'It depends how severe it was and obviously it depends on other factors but yes, it shouldn't have been allowed to happen in the first place, I suppose, but you shouldn't leave it until you're happy that it wasn't under tension even if that meant making a separate incision and mobilising more bowel so that it sat at the surface comfortably.' (T83).

He added that it would have been preferable to have operated sooner rather than later. He said:

‘The worst time to go back into an abdomen is between about ten days and three of four weeks when the adhesions are often more solid than the bowel.’

(T84).

2.32. Mr Sarre was prepared to concede to Mr Eriksen that he might have been prepared to wait several days before revising the colostomy to see if the situation improved. (T109). However, Mr Sarre pointed to continued observations in the casenotes which indicated that the colostomy was at risk. For example;

- despite the note of Dr Whalan (the Surgical Registrar) on 6 May 1998 that ‘wound looks satisfactory’, the stomal therapy nurse noted on the same day that it was dark red and under tension;
- on 7 May, the stomal therapist noted:  
‘colour has deteriorated since yesterday. Doctor informed’;
- later on 7 May, another nurse noted:  
‘stoma - non raised and colour deteriorated - purple and non-functioning’;
- on 8 May it is noted:  
‘stoma retracted and dark in colour’.  
This was also noted by the stomal therapist, and in several later nursing notes that day;
- on 8 May a note reads:  
‘seen by Registrars/Consultants ....  
stoma - darkly coloured ...’;
- Dr Whalan and Associate Professor Roediger saw Ms Roach on 9 May but no note was made of the condition of the stoma;
- there is no further note about the condition of the stoma until 11 May when a nurse described the stoma as ‘black’.

Mr Eriksen, counsel for Associate Professor Roediger, pointed out that there were a number of other nursing notes (for example, on 6 and 7 May, a nurse described the stoma as ‘pink and raised’). However I do not think that detracts from the fact that the notes of most concern were written by the stomal therapy nurse, who has specific expertise in the field, and should have been heeded.

2.33. Ms Roach was discharged from TQEH on 11 May 1998 by Dr Kayser, the Senior Registrar, who has since returned to Belgium and has not been contacted for the purpose of this inquiry. There is no discharge summary by any medical practitioner in the casenotes. The nursing note states that Ms

Roach was given 'education both verbally and written' about colostomy care. As I have already mentioned, the stoma was described as 'black' at that time.

- 2.34. Associate Professor Roediger said he was 'very unhappy' about Ms Roach's discharge after he learned of it. He said he was not told about it at the time. When asked if the registrars' decisions were checked with him before Ms Roach was discharged, he said:

'No, unfortunately they weren't. We give our training staff some latitude in that regard and if they consider discharge and there is a problem they usually discuss it with me, but on this occasion no discussion took place.' (T55).

- 2.35. There is little doubt that Ms Roach's discharge on 11 May 1998 was completely inappropriate. She was still unwell, required antibiotics, and was unable to manage the colostomy by herself (Exhibit C6, p3). Associate Professor Roediger explained what may have influenced his staff in this case as follows:

'I instruct the staff, the training staff, not to discharge patients with any problems unless they discuss this with me and that is their standard instruction for them to do. In the public hospitals we are under awful pressure to perform multiple procedures with shrinking beds, and it's a potential problem that we don't have the beds and facilities available to do justice to what we would like to do as medical people.' (T67).

He said that, had he been consulted, such pressure would not have caused him to discharge Ms Roach, but more junior staff are affected:

'It puts a mindset in place which they labour under continuously'. (T68).

I am unable to determine whether this factor weighed upon Dr Kayser's mind when he discharged Ms Roach or not, since he has returned to Belgium and was not available to give evidence.

- 2.36. It is not clear whether Associate Professor Roediger ever directly inspected Ms Roach's stoma prior to discharge. He said:

'A. I examined the colostomy through the bag; the bag is in place and covers all the structures around, yes I did.

Q. Did it appear to still be under tension.

A. That's difficult to assess visually.

Q. Does anybody examine the colostomy by removing the bag and checking its condition.

A. Yes, the stomal sisters do that fairly regularly and if they're concerned they usually write a note in the notes or come and mention it to me, or the registrar's person.' (T56).

2.37. I have already mentioned the notes made by the various nurses, including the stomal therapist, about the condition of the stoma. Little heed seems to have been paid to this information.

2.38. Mr Sarre told me that the black appearance of the stoma on 11 May was due to the fact that the blood supply to the area had failed, presumably because it was under tension and, 'it's just not going to heal'. (T84).

2.39. Third admission

Following visits by the 'Hospital at Home' nurse on 11 and 12 May 1998, during which it was obvious that Ms Roach could not manage the stoma, Ms Roach was readmitted to TQEH at about 5pm on 12 May 1998. As to her symptoms at that time, Associate Professor Roediger said:

'It seemed as if she had developed evidence of sepsis in that she was very oedematous, she had a fever, and in addition she was tender next to her colostomy on the right side of her abdomen, suggesting that an abscess had developed next to the colostomy, and this tenderness and fever had generally made her appear unwell'.

(Exhibit C5, p6).

2.40. At that time, it was also noted that the bridge had disappeared, the colostomy had retracted causing bowel contents to spill into the abdominal cavity, leading to peritonitis. Necrosis (tissue death) of the skin and bowel mucosa were noted. She was jaundiced, had ankle oedema, was dehydrated and her urea and creatinine levels had risen. Mr Sarre commented:

'It appears in retrospect that she was really developing renal and hepatic failure at this point though the parlous state of her general condition does not appear to have been appreciated'.

(Exhibit C6, p2).

2.41. Mr Sarre explained the process of retraction as follows:

‘It is basically a large side hole in the colon, and the colon is full of faecal material. As that goes – if it goes back, if it happens suddenly then obviously it just floods the abdomen. You get faecal peritonitis, which is probably the most contaminated material we can produce. If it’s happening over a period of days then you would expect some local reaction and adhesion formation which would tend to ward it off, but that may not be adequate, and I think in her case it is fairly clear, at least in retrospect, that was not well, that she was probably malnourished in a biochemical sense, so wound healing was not occurring normally, and presumably there was not a lot of adhesion formation. You have got ischemic damage tissue, plus all the bacteria from the faeces, but wherever it lobs it is going to cause fairly severe reaction.’ (T85-T86).

- 2.42. Associate Professor Roediger performed a further operation on 13 May. Mr Sarre provides a clear and concise description of the operation and Ms Roach’s subsequent progress in his report:

‘She was taken to Theatre on the 13<sup>th</sup> May with the intention of revising the colostomy and removing the gallbladder which was believed to be the cause of the jaundice. The operation appears to have been extremely difficult taking over four hours during which time she was given two units of blood as well as fresh frozen plasma. In the event, the previous colostomy was divided and the proximal end brought out through the right iliac fossa and the transverse colon brought out the previous right upper quadrant incision. There is no mention of the gallbladder being removed nor of the pelvic abscess being drained. On the 14<sup>th</sup> May, she was noted to still have a low urine output and was requiring extra boluses of fluid. The decision was made to institute parenteral nutrition at that stage and she was seen by the Renal Medicine Registrar because of continuing low urine output and rising creatinine and urea. He felt that the cause of her acute renal failure was ongoing infection and at that point on the afternoon of the 14<sup>th</sup> May she was transferred to the Intensive Care Unit because of increasing respiratory distress and a falling blood pressure. She required immediate ventilation and inotrope support to maintain a blood pressure, renal dialysis was commenced. Infection with MRSA was proven at about this time. Her progress over the next few days showed little improvement and her platelet count fell indicating continuing ongoing sepsis.’

(Exhibit C6, p2).

- 2.43. Associate Professor Roediger explained why he did not attempt to drain the pelvic abscess:

‘No, the – attempts were made to get into the pelvis, but it was full of adhesions and almost impossible, without causing damage, to get into the pelvis’.

(Exhibit C5, p8).

- 2.44. Mr Sarre was again critical of the fact that this operation was not performed using a midline incision. Instead, the transverse incision in the right upper quadrant was extended, and another smaller incision in the right iliac fossa (groin) was made, and after the colostomy was revised, abdominal lavage was carried out. Mr Sarre said that a full midline incision would have allowed a more thorough clean-up of the abdominal cavity. He said:

‘I think it would have. Admittedly she was fairly unwell at that time and had a coagulation disorder which was presumably secondary to overwhelming infection, but I would have thought that was an even stronger indication to be aggressive surgically to ensure there was no dead tissue or faecal matter or pus left behind. I think most of those things could be managed with haemocological support with platelet transfusions, blood transfusion, plasma, expanders, and fresh frozen plasma, and vitamin K, and all the – you can in most cases control that at least during the period of the surgery, and for a day or so afterwards’.

(T88-T89).

- 2.45. As I have outlined, Ms Roach remained extremely unwell following Associate Professor Roediger’s operation. Mr Hewett returned from leave on 19 May 1998 and was immediately concerned by her condition in the Intensive Care Unit which he described as ‘extremely ill’. He said:

‘While I thought the colostomy was viable, I was extremely concerned about the skin and surrounding tissue which I thought were ischaemic, and I in fact thought she may have had a condition called synergistic gangrene of the abdominal wall and I removed, in the Intensive Care Unit, the skin and sutures around the – the sutures in the skin and fascia around the colostomy, and drain – and immediately drained about 100mls of pus from a pocket lateral to the colostomy and excised the ischaemic skin and fat, and packed the area and planned to review her the next day with the thought that if she was at all fit, then she should go back to the operating theatre for further review of the wound’.

(Exhibit C4, p11).

He said that it would have taken 2 or 3 or even 4 days for that much pus to have collected in the area. (T32).

2.46. It is not clear why Ms Roach's condition had been allowed to deteriorate to the state noted by Mr Hewett on 19 May. By that stage, the wound appeared to be gangrenous, although at operation this proved not to be so.

2.47. Associate Professor Roediger explained that there was little point in giving further treatment after about 16 May because:

'The reason perhaps for not doing that myself is at this point in time, and we're talking about 16 May, it became apparent that the patient was moribund. She was on a ventilator. If that had been stopped, she would have died. She was on heart support. If that had been stopped she would have died. She was on renal dialysis, and if that wasn't minded she would have died. And she had clotting factors that couldn't be corrected. So it was a combination of multi organ failure that dictated that the situation at that stage was irretrievable.' (T64).

2.48. There is certainly no mention in the casenotes about Ms Roach being moribund, or treatment being withdrawn, or palliative care being given. Indeed, Mr Hewett took quite aggressive steps to try and save her when he returned from leave.

2.49. Mr Sarre acknowledged that Ms Roach was extremely unwell, and that the 'odds were stacked against her', to the extent that her chances of survival were as low as 10-20% (T94). However, I am unable to understand why she was not treated more aggressively when signs of tissue death began to develop at around 16 May 1998. Mr Sarre confirmed that, in his view, the extensive surgery performed by Mr Hewett on 20 May 1998 should have been performed at least a week earlier, ie. when Associate Professor Roediger operated on 13 May 1998. (T92-94).

2.50. Ms Roach's condition had not improved on 20 May 1998, so Mr Hewett operated again. Mr Hewett's description of the operation is as follows:

'A. That's right, at the initial sigmoidoscopy there was some pus oozing from the area of the join in the bowel, the anastomosis and therefore I extended the - in previous incision which had been used by Mr Roediger which was a right iliac fossa oblique incision across the midline and all the fascial sutures were removed and I located the area of the anastomosis and there was a large amount of fresh blood clot in the area, which indicated the area had been bleeding and the stoma and mucous fistula were mobilised and sutured up into the wound. The pelvis needed to be packed because of

excessive bleeding due to the patient's very poor coagulation status which was because she was moribund, and then a further collection of infected fluid was drained from the right paracolic gutter near where the area of the previous colostomy was. In addition, a small perforation in the small intestine which occurred when mobilising the bowel from the pelvis was sutured closed, and then all of the wounds were left open and the defect was covered with abdominal packs and it was hoped that if her condition was stable, then given the packs might be able to be removed.

**Q.** And could you tell me what happened post-surgery.

**A.** Well after the - after the surgery she returned to the Intensive Care Unit, however her blood pressure was extremely low and it was difficult to support her blood pressure and the decision then was made by Dr Sandy Peake that her prognosis was extremely poor and family members attended her bedside and I understand that Ms Roach died at 5 o'clock on the 22nd of May 1998.

(Exhibit C4, p12).

2.51. Mr Hewett said that the infected fluid that he drained from the area adjacent to the colostomy site was secondary to that procedure, and the complications arising from its failure, and was not related to the initial anastomosis. (T24).

2.52. Unfortunately, Mr Hewett's efforts were unsuccessful, and, as he indicated, Ms Roach's condition failed to improve. She died at about 5:15am on 22 May 1998.

### **3. Cause of death**

3.1. A post-mortem examination was performed on the body of the deceased by Dr J D Gilbert, forensic pathologist, on 25 May 1998.

3.2. Dr Gilbert found:

'Large intestine: The right colon has been mobilised. At the proximal transverse colon, the bowel was divided and the free ends were identified in the upper end of the open abdominal wound. Distally, the rectosigmoid anastomosis broke down readily despite gentle removal. It appeared, however, to have been intact prior to removal'.

(Exhibit C2a, p2).

He also found clear signs of generalised septicaemia and peritonitis, and associated respiratory, hepatic and renal failure.

3.3. Dr Gilbert's report contains the statement:

'Death has been attributed to multi-organ failure following septicaemia and peritonitis due to faecal leakage from the large intestine complicating surgery for removal of a carcinoma of the distal sigmoid colon.

No residual anastomotic leakages were identified in relation to the previous abdominal surgical procedures and it was therefore not possible to comment on the nature of the original leakage from the rectosigmoid anastomosis (detected 30/4/98) and that from around the colostomy site on 13/5/98'. (Exhibit C2a, p5).

3.4. However, on the first page of his report, Dr Gilbert was more specific:

'Cause of Death

Multi-organ failure due to septicaemia and peritonitis due to anastomotic leakage following anterior resection of carcinoma of distal sigmoid colon'.

(Exhibit C2a, p1).

3.5. In view of the evidence that I have now heard, I am satisfied that this is not an accurate description of what occurred. It is clear that Ms Roach suffered an infection following the anastomotic leakage detected on 30 April 1998, but that was reasonably well-contained to a small area (1.5cm) of the abdominal cavity.

3.6. Ms Roach did not become gravely ill until after the colostomy failed following her discharge from TQEH on 11 May 1998. By 'failed' I mean that the bridge fell out, the bowel retracted into the abdominal cavity, and bowel contents proceeded to spill into the abdomen leading to generalised peritonitis and septicaemia. This is confirmed by Mr Hewett's findings when he operated on 20 May 1998:

'At the time of my surgery on the 20th, there was very little sepsis in that area (the area of the anastomosis). As I mentioned, there was some fresh blood clot but very, very little pus and certainly not enough to explain her severely septic state and I think that's difficult to get from the post mortem, because the surgery that I had performed on the 20th of May, had in fact treated the sepsis coming from the retracted colostomy and the operation subsequent to that'.

(Exhibit C4, p13).

- 3.7. Mr Sarre agreed that the overwhelming infection leading to Ms Roach's death was caused by the failed loop colostomy performed by Dr Berry. He acknowledged that Ms Roach had been unwell for three weeks prior to that due to the leaking anastomosis, which made her less able to deal with the overwhelming infection which occurred later. However, her prognosis would have been quite good had the later event not occurred. (T94).
- 3.8. This was information which was not available to Dr Gilbert at the time of the post-mortem examination. I accept Mr Hewett's evidence about this issue, and find that the cause of Ms Roach's death was:

'Multi-organ failure due to septicaemia and peritonitis due to faecal leakage from the large intestine following the failure of a loop colostomy created to deal with a leaking anastomosis following surgery for removal of a carcinoma of the distal sigmoid colon'.

#### **4. Conclusions**

- 4.1. An anastomotic leak developed following the initial surgery performed on 8 April 1998. This was a 'recognised complication' of that type of surgery.
- 4.2. When Ms Roach's condition did not quickly improve after her readmission to TQEH on 30 April 1998, more aggressive measures might have been taken to treat the infection including a colostomy and drainage of the abscess.
- 4.3. When such treatment was provided on 5 May 1998, the operation was performed in a less than satisfactory manner in that:
- the stoma (outlet) was badly sited;
  - the abscess at the anastomotic site was not drained;
  - the section of the bowel brought to the skin surface was not cleared of adhesions and remained under tension;
  - the bridge used to keep the bowel loop in position was not sutured in place.
- 4.4. Having regard to those deficiencies, Ms Roach was at great risk of a failure of the colostomy, spillage of bowel contents into the abdominal cavity and serious infection, a life-threatening event. For those reasons, the colostomy should have been revised at an early stage, particularly when the stoma was showing signs of failure from an early stage.

- 4.5. The discharge of Ms Roach on 11 May 1998 was completely inappropriate. I am unable to conclude whether 'bed pressure' put on junior staff caused this to occur since Dr Whalan was not available to give evidence.
- 4.6. After Ms Roach was discharged, the colostomy failed, probably because the bridge had fallen out, and the bowel, which was still under tension, retracted causing bowel contents to spill into the abdominal cavity, causing generalised peritonitis.
- 4.7. When Associate Professor Roediger performed the further operation on 13 May 1998, Ms Roach was very seriously ill and her prognosis was grave. However, a midline incision (rather than a smaller, transverse incision in the right upper quadrant and right iliac fossa) would have enabled him to perform a more effective abdominal lavage.
- 4.8. Following that operation, Ms Roach does not appear to have had any effective treatment until Mr Hewett's return on 19 May 1998. Associate Professor Roediger said in evidence that she was moribund, although this was not acknowledged at the time. Proper professional practice would have been to discuss this with her family, record the diagnosis and any consequent decisions in the case-notes.
- 4.9. When Mr Hewett returned from leave, he made extensive efforts to try and save Ms Roach, but these proved unsuccessful and she died on 22 May 1998. I am unable to draw any firm conclusions about whether, if these efforts had been made earlier, the outcome would have been different. However, the operation performed by Dr Hewett should have been performed at least a week earlier.
- 4.10. What can be said, however, is that, had the anastomotic leakage which resulted from Mr Hewett's first operation, on 8 April 1998, been appropriately treated, Ms Roach's chances of recovery were good. However, the failure of the poorly performed colostomy, which became apparent on 12 May 1998, and the gross contamination of the abdominal cavity which resulted, was the ultimate cause of her death.
- 4.11. This failure could have been avoided had the colostomy been revised earlier, and if Ms Roach had not been discharged on 11 May 1998.

## 5. Recommendations

- 5.1. Section 25(2) of the Coroner's Act 1975 empowers me to make recommendations if, in my opinion, they might 'prevent, or reduce the likelihood of, a recurrence of an event similar to the event that was the subject of the inquest'.
- 5.2. As I have noted previously, I should be reluctant to make recommendations which might have the effect of misgiving on the clinical practices of a learned profession which is not my own, unless there are very strong and clear reasons for doing so.
- 5.3. Having outlined what I regard as having been the deficiencies in the treatment received by Ms Roach in this case, I think that the most useful recommendation I can make is that the Minister for Human Services, after considering these findings, review the clinical practices at TQEH with a view to ascertaining whether changes need to be made in the following areas:
- the standard of surgical practice performed at the hospital;
  - the degree of supervision given to surgical trainees;
  - discharge practices; and whether 'bed pressure' is affecting these;
  - handovers and exchanges of information;
  - medical staffing levels.

*Key Words: abdominal surgery; medical treatment*

*In witness whereof the said Coroner has hereunto set and subscribed his hand and*

*Seal the 4<sup>th</sup> day of May, 2001.*

.....  
*Coroner*