CROSS Billy

From: Amanda Lennon [redacted]
Sent: 09 March 2006 14:59
To: CROSS Billy
Subject: Adam Strain

Billy

Would it be possible for you to email me Prof Savages' typed statement and I can make the changes he wants please?

Also both Katie Knaggs and Cathy Hall are content with their statements and ready to sign. Let me know how you want to go about it.

Regards

Amanda

CROSS Billy

From: CROSS Billy
Sent: 09 March 2006 17:05
To: Amanda [redacted]
Subject: 4.UNCLASSIFIED-All Networks: STATEMENT OF WITNESS

Savage.doc

Amanda

As requested.

Billy

STATEMENT OF WITNESS

STATEMENT OF: MAURICE SAVAGE
Name *Rank*

AGE OF WITNESS *(If over 18 enter "over 18"):* OVER 18

To be completed when the statement has been written

I declare that this statement consisting of 6 pages, each signed by me is true to the best of my knowledge and belief and I make it knowing that, if it is tendered in evidence at a preliminary enquiry or at the trial of any person, I shall be liable to prosecution if I have wilfully stated in it anything which I know to be false or do not believe to be true.

Dated this day of

SIGNATURE OF MEMBER by whom statement was recorded or received

PRINT NAME IN CAPS

SIGNATURE OF WITNESS

I am a Consultant Paediatric Nephrologist in the Royal Belfast Hospital for Sick Children (RBHSC). I was in that position in November 1995 when Adam Strain was admitted to the RBHSC for a renal transplant. I am also Professor of Paediatrics at Queens University, Belfast. I was involved in the general medical care of Adam Strain from early infancy when he was referred by Dr Angela Bell from the Ulster Hospital, Dundonald where he had been born with cystic, dysplastic kidneys. There were associated problems with the drainage of his kidneys related to obstruction and vesico ureteric reflux. He required multiple operations to the urinary tract and from that point of view was under the care of the Consultant Paediatric Surgeon, Mr Stephen Brown. To optimise drainage of the urinary tract he had a suprapubic catheter inserted. He had re-implantation of his ureters on two occasions and had nephrostomies performed during the early months of his life. On several occasions he became critically ill and required care in our Intensive Care Unit and a brief period of dialysis because of acute renal failure. My medical management was

STATEMENT OF: MAURICE SAVAGE

aimed at optimising Adam's nutrition and preserving his residual renal function for as long as possible. Maintaining nutrition was a major problem because of persistent vomiting and a fundoplication operation to stop gastro-oesophageal reflux was carried out in 1992. However he continued to have major feeding problems and required supplemental tube feeding and eventually required all his nutrition via a gastrostomy tube. He was subject to recurrent urinary tract infections and his renal function gradually deteriorated until he required dialysis support. Home peritoneal dialysis was chosen. His mother was trained in the home peritoneal dialysis technique by our dialysis nurses. I co-ordinated Adam's care, prescribed and monitored his dialysis treatment with support from a dietician, psychologist, social worker, the renal nursing team and of course his mother. Although he had many hospital admissions and was seen regularly as an out-patient, a lot of his complicated management, including his medication, tube feeds and home dialysis, was carried out meticulously with great skill by his mother, Debra Strain, with whom we worked closely. Despite the fact that his kidneys were unable to excrete waste products adequately so that he required dialysis for uraemia his urine output was quite large but of poor quality. His tube feeds in the months prior to transplantation, were slightly over 2 litres per day and although his night time dialysis removed some fluid he continued to pass in excess of 1 litre of urine each day. Once he was on dialysis he was put on call for a kidney transplant. Adam required multiple medications with Calcium Carbonate, Keflex, Iron, One-Alpha Vitamin D, Erythropoietin and Sodium Bicarbonate and nighttime gastrostomy tube feeding. The medications and tube feeds were to ensure good nutrition and to prevent renal anaemia and bone disease. He was a well-nourished, well-grown boy with height

STATEMENT OF: MAURICE SAVAGE

near the 50th centile and weight at the 90th centile for his age. Prior to his admission for renal transplant Adam's most recent acute illness was with a gastrostomy exit site infection in July 1995. On the 26th November 1995 we had an offer of a kidney from the UK Transplant Service that was a reasonable match for Adam. He was therefore admitted to Musgrave Ward under my care in the Royal Belfast Hospital for Sick Children for pre-operative assessment and so that a tissue crossmatch could be carried out. Standard pre-transplant checks were performed including assessment of hydration, temperature, blood pressure, chest examination, blood crossmatch, biochemistry screen, a full blood picture, coagulation screen and a virological check of his blood. His urine and some peritoneal dialysis fluid were cultured and consent obtained for a transplant. I contacted our operating theatre, the consultant anaesthetist on call and the transplant surgeon on call to alert them to the possibility of a transplant operation and the nature of Adam's medical condition. Adam's mother had previously been given information about transplantation. In discussion she was apprehensive in relation to such major surgery but of course Adam had experienced quite a long and stormy medical history with many operations so this procedure did seem to offer him the best chance of a more normal life. As it takes approximately six hours for a transplant crossmatch process to be completed it was 1.00 am before we knew that the transplant crossmatch was favourable. After detailed telephone discussion of the complexity of Adam's case the surgical and anaesthetic team decided that rather than commence major surgery in the middle of the night a planned transplant operation should commence at 7.00 am, 16 hours after the kidney had been donated. His serum electrolytes, haemoglobin and coagulation were satisfactory.

STATEMENT OF: MAURICE SAVAGE

H.B.10.5g/dl, Na 139, K 3.6, Urea 16.8, Ca.2.54, Albumin 40, Prothrombin time 12.3. His chest was clear on examination. B.P. 108/56. He was apyrexial. There were no signs of infection. Usually Adam was given a high calorie tube feed, Nutrison, and had 1500 mls each night. This contains 43 mmol of sodium/L. In consultation with Dr Taylor it was decided that he should have clear fluids overnight by gastrostomy tube rather than his normal Nutrison feeds. The gastrostomy fluids were to stop two hours before going to theatre. On the night of his transplant he instead had a glucose and electrolyte solution known as Dioralyte which contains 60 mmol of sodium chloride/L so that his stomach would be empty by 7.00 am. He had 900 mls of Dioralyte. . His peritoneal dialysis was performed as usual, although the duration of the dialysis was, of necessity, shorter than usual – 750 ml fluid volume 1.36% Dextrose solution. He was given 8 cycles before going to theatre at 7.00 am. I discussed Adam's underlying diagnosis, his past medical history and the current management of his condition in terms of dialysis and fluids with Dr Taylor so that he was aware that Adam normally received 2.1 litres of fluid each day, 1500 ml of which were usually given overnight and that I estimated that his urine output each day was 1200-1500 mls. It was planned that Adam should receive intravenous fluid (75 ml/hr) after the tube feeds were discontinued and have his blood chemistry checked before theatre but it proved impossible to achieve venous access. I arranged to return to the hospital early the following morning to be available for consultation if required. I noted in the clinical chart the anti-rejection and antibiotic drugs which I recommended for Adam and a request for a double or triple lumen long intravenous central line to be placed for ease of blood sampling, drug administration and monitoring of his CVP. On the morning of the 27th November I

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made myself available in theatre for consultation and understood there were no early problems during the transplantation procedure with cardiovascular status or anaesthesia. Surgery was complex, but successful organ transplantation was achieved with acceptably matched kidney from a 16-year-old donor. I reassured Ms Strain of this before undertaking some university duties and my colleague, Dr Mary O'Connor, then made herself available for consultation. Neither of us, of course, take part in the transplant surgery itself but are responsible for the immunosuppressive treatment and usually take over the care of the patient again once they have returned from theatre. Post-operatively Adam failed to breathe spontaneously. On examination he had dilated pupils and bilateral papilloedema. I was contacted and came immediately to the Intensive Care Unit. Post-operative electrolyte analysis indicated a sodium of 119 compared to 139 the previous evening. We were concerned that Adam had developed cerebral oedema. A chest x-ray showed pulmonary oedema and an emergency CAT brain scan confirmed cerebral oedema and herniation and compression of the brain stem. As soon as this situation was clear I sat down with Adam's mother and the family and told them we were in a grave situation. I explained that Adam had cerebral oedema with a swollen brain causing pressure on his vital centres and indicated that I thought the hope of recovery was remote. Despite this devastating news Ms Strain subsequently wanted to discuss the possibility of organ donation with me. Neurological testing by Dr David Webb on the evening of 27.11.95 and the morning of the 28.11.95 confirmed brain death. Deborah Strain, the mother and the immediate family were informed of the complications and prognosis regularly throughout these events. Death was certified shortly after 9.00 am on 28th

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November. With the consent and in the presence of the family ventilatory support was withdrawn at 11.30 am while Adam was being nursed by his mother. In the succeeding months I kept in contact with Debra Strain and her parents as they struggled to cope with their tragic loss. I tried at all times to be open and honest in talking with them and shared their grief. Following the events surrounding Adam's death Dr O'Connor and I revised the Renal Transplant Protocol to state that normal saline, plasma or blood should be used in theatre to raise central venous pressure prior to releasing vascular clamps to perfuse the kidney. At the Inquest into Adam's death on 21st June 1996 I stated that Adam did need sodium in his feeds but his sodium was well controlled. His mother's care of him was meticulous and his health was due to her meticulous care. I believed the speed of change of electrolytes is very significant in that the body copes with it less well. I stated in response to questions by Miss Higgins that after 1994 Adam was under the care of Mr Boston. He had a potential for low sodium, which was being managed. Adam never had normal thirst symptoms which disappeared because of his illness. The majority of children with renal failure have similar problems concerning electrolyte levels. Since Adam's death these would be measured more frequently. Any level below 135 is hyponatraemia but there is a lower figure at which it becomes dangerous. A level below 120 needs urgent action. At 128 action needs to be taken to redress the balance. However, the patient could be perfectly well. Electrolytes could not be checked first thing in the morning, as venous access could not be obtained. Standard practice would be to test electrolyte levels near the start of surgery but it is essentially a matter for clinical judgement. I was not aware of the 9.32am reading. I believe a child in renal failure is at greater risk of developing sodium imbalance. I

STATEMENT OF: MAURICE SAVAGE

accepted the cause of death given by the pathologist. In response to questions by Mr Brangham I said: I had known Adam since he was a baby. He had to have the operation to live any length of time and to have a normal life. We discussed the operation in detail with his mother the day before. Also, I discussed it with Dr Taylor. The operation had been put back to the following morning. His overnight feeding was discussed in detail and he would have been aware what the normal regime would have been. 900 mls arose as we had to switch from tube feeding to intra-venous feeding two hours before the operation. I was satisfied the anaesthetic staff had all the relevant information. The information about the 9 other deaths was told to me verbally later – it was not published. All the fluids which were given to Adam during the operation contained sodium. One cannot pick a figure for determining hyponatraemia – it is a matter for clinical judgement which will be influenced by the speed of change. The lab would take about an hour to do an electrolyte analysis. In response to further questions by Miss Higgins I said: With the benefit of hindsight his sodium became too low. A lab analysis is more accurate than the blood/gas machine. I personally never use that machine, as I have no reason to do so. I have been asked specific questions by D/Sergeant Cross and reply as follows. The pre-operative electrolyte tests were directed by me. I discussed Adam's situation with Dr Taylor before the operation and explained how the fluid was managed daily, explaining the type and quantity of fluids given with calculated urine losses. It was in this discussion that Dr Taylor directed clear dioralyte fluids overnight, stopping 2 hours before theatre. Adam was then to get IV fluids for 2 hours, but this was not possible as the junior doctor could not get a vein. I would have told Dr Taylor that Adam, unlike some other patients with renal failure,

STATEMENT OF: MAURICE SAVAGE

was passing urine, albeit urine which did not remove waste products. Our estimation of urine output at 1 L per day and his usual fluid intake of 2.1 L per day was discussed to enable the anaesthetic team to determine his usual fluid requirements and calculate his needs during surgery. I am not aware of anyone conducting enquiries into the performance of the paired donor kidney. I expected that electrolytes would have been checked prior to or at the commencement of surgery. During the operation I was undertaking university commitments but remained at RVH site. During transplant surgery one of the 2 nephrologists make themselves available for consultation. I left between 8.00 am and 9.00 am. I handed over to my colleague Dr O'Connor and had no direct contact with the operating theatre until Dr O'Connor telephoned me at lunchtime. I was not party to any discussions on CVP, fluid balance or electrolytes during theatre. It is my practice to specify that, if possible, a triple lumen intravenous catheter should be used as patients like Adam will require multiple intravenous drug therapy, intravenous fluids and monitoring including blood sampling. A triple lumen line facilitates all of these.

CROSS Billy

From: CROSS Billy
Sent: 09 March 2006 17:08
To: 'Amanda Lennon'
Subject: 4.UNCLASSIFIED-All Networks: RE: Adam Strain

Amanda

Statement sent in another email. I will ring Friday and arrange to see the nurses.

Billy

-----Original Message-----
From: Amanda Lennon [mailto:[redacted]
Sent: 09 March 2006 14:59
To: CROSS Billy
Subject: Adam Strain

Billy

Would it be possible for you to email me Prof Savages' typed statement and I can make the changes he wants please?

Also both Katie Knaggs and Cathy Hall are content with their statements and ready to sign. Let me know how you want to go about it.

Regards

Amanda

CROSS Billy

From: Amanda Lennon [redacted]
Sent: 10 March 2006 14:15
To: CROSS Billy
Subject: RE: Adam Strain

Thanks anyway Billy - will ask Dr Gaston and Dr Murnaghan.

-----Original Message-----
From: Billy.Cross[redacted]
Sent: 10 March 2006 13:46
To: Amanda Lennon
Subject: RE: Adam Strain

Amanda

The only record I have of Dr Lyons is on page 011-031-143 as numbered by the Inquiry. He met the Coroner with Drs Murnaghan and Gaston in December 1995. Perhaps Drs Gaston or Murnaghan will remember. I regret do not have any other details for him.

Billy

-----Original Message-----
From: Amanda Lennon [mailto[redacted]
Sent: 10 March 2006 10:08
To: CROSS Billy
Subject: RE: Adam Strain

Billy

I cant find a Dr Lyons in the listing of staff involved we have. Can you confirm a first name please?

Amanda

-----Original Message-----
From: Billy.Cross[redacted]
mailto:Billy.Cross[redacted]
Sent: 09 March 2006 21:34
To: Amanda Lennon
Subject: Adam Strain

Amanda,

as agreed in the telephone call, please provide contact details for the following whom we wish to interview as witnesses:

Drs Webb, Cartmill, Murnaghan, Gaston, Lyons, Gibson and Mr McLaughlin and Mr Wilson. A letter re same will follow.

Thanks,

Billy

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Mr A P Walby FRCS Ed
Associate Medical Director
Litigation Management Office
Royal Victoria Hospital
4th Floor
Bostock House
Grosvenor Road
BELFAST
BT12 6BA

Dear Dr Walby

RE ADAM STRAIN

Further to my telephone call and email of 9 March 2006 to your personal assistant, Ms Amanda Lennon, I request that you, where possible, provide contact details for the following people who we wish to interview as witnesses:

1. Dr Webb, who conducted the brain stem tests.
2. Dr Cartmill, who prescribed the pre-operative fluids.
3. Dr Murnaghan, who liased with the Coroner.
4. Dr Gaston, who liased with the Coroner.
5. Dr Lyons, who liased with the Coroner.
6. Dr Gibson, who reported on Adam's death and two other deaths.
7. Mr B McLaughlin, who tested the theatre equipment.
8. Mr Wilson, who assisted Mr B Loughlin.

It is my hope that having interviewed those above, our interviewing of witnesses will be almost conducted and that there will be a decreasing need for me to impose on you in this way.

Yours sincerely

WILLIAM R CROSS
D/SERGEANT

Fermanagh District Command Unit
48 Queen Street, ENNISKILLEN, BT74 7JR Web: www.psni.police.uk
Tel: [redacted] Fax: [redacted] E-mail: fermanagh[redacted]
Billy.Cross[redacted]