Form 20

CORONERS ACT (NORTHERN IRELAND) 1959

Deposition of Witness taken on TUESDAY the 17TH day of FEBRUARY 2004, at inquest touching the death of LUCY CRAWFORD, before me MR J L LECKEY Coroner for the District of GREATER BELFAST as follows to wit:-

The Deposition of DR DONNCHA HANRAHAN of ROYAL BELFAST HOSPITAL FOR SICK CHILDREN, GROSVENOR ROAD, BELFAST, BT12 6BA who being sworn upon his oath, saith

I, Dr Donncha Hanrahan, am a registered medical practitioner and a Consultant in Paediatric Neurology in the Royal ~~Victoria~~ BELFAST Hospital for Sick Children. I qualified in 1985 and was appointed to my present post in 1998. I achieved a Diploma in Child Health in 1988 and became a member of the Royal College of Physicians of Ireland in 1990. I was awarded the M.D.Degree from University College Dublin in 1997 and am a fellow of the Royal College of Paediatrics and Child Health. Lucy Crawford, was transferred from Erne Hospital, Enniskillen to the Paediatric Intensive Care Unit in the Royal Belfast Hospital for Sick Children on 13th April 2000.

Lucy Crawford arrived in Paediatric Intensive Care at approximately 8.30 a.m. on 13th April. I first reviewed her approximately two hours later at 10.30 a.m. At my initial assessment, I did not have access to her Enniskillen notes. An entry in her notes relating to the ward round of that morning by Dr Crean, stated that he was awaiting faxes of her notes and that she was to be reviewed by a Neurologist that morning. It was shortly after that that I saw her and it was subsequent to my reviewing her that Dr Crean's typed-up entry was inserted into her notes. My impression, when I first encountered her, was that there was no sign of brain – stem function

and I believe, therefore, that she was brain – dead, with an irretreviable situation when I first examined her.

The story which I first got at that stage was that, on 11th April ie two days before transfer, Lucy was vomiting. She was somewhat better that evening and the following day, was drinking some boiled water but vomited this. She was listless and lethargic. At 2.00 p.m. she was give Paracetamol for pyrexia but her level consciousness was somewhat decreased. Her parents rang the Contractors and she was seen by an out-of hours doctor, who referred her to the Erne Hospital, with her arriving there at approximately 19.30 hours. According to Dr O'Donohoe's letter at this stage, IV placement was achieved three hours later. Her initial sodium was 137 and her potassium was 4.1. She was given 18. (0.18% NaCL and 4% dextrose) according to her fluid balance chart, she was given 100mls an hour of this once IV placement was achieved.

At 11pm, she was noted to be staring somewhat with her eyes quite glazed. At approximately 3.00 a.m., she was restless with some abnormal breathing and then she went quite rigid. At that stage, she had some offensive diarrhoea and it was then noted that her pupils were fixed and dilated. She was intubated by an anaesthetist and approximately at that stage, her sodium was found to have dropped to 127. She was given what appears to have been a large bolus dose (500mls) of normal saline (0.9%).

Lucy had been previously well part from some bronchiolitis. She had been born by Caesarean section but was well. Her vaccinations were up todate and she was taking no regular medication. She had one older sister aged sixteen and one older brother aged thirteen.

When I examined her at 10.30 a.m., she was cold (31 degrees) and was pale. She was completely unresponsive. Her pupils were fixed and unresponsive. I could elicit no corneal gag or doll's eye reflex. Her fundi appeared normal with no haemorrhages or papilloedema. Her reflexes were present but dismissed.

My overall impression, assuming that her paralysis had worn off from intubation and that she had been given no sedation, was that she was showing no signs now of brain-stem function and that she was brain dead. I recommended a CT scan and an E.E.G.

Not having access to her fluid chart at that stage, my differential diagnosis included infection, possibly from herpes, haemorrhagic shock encephalopathy, metabolic disease, including urea cycle defect and cerebral oedema from other cause. Various investigations were all normal and subsequent events transpired to indicate that cerebral oedema, probably related to hyponatraemia, in turn related to a gastroenteritis, was the cause of death.

Her E.E.G. was isoelectric, showing no discernable cerebral function. Her CT Scan showed obliteration of the basal cisterns, suggesting that she had coned, which means that due to raised intracranial pressure, her brain was forced down through the foramen magnum, causing pressure on her brain - stem and death.

I reviewed Lucy again that evening, at 17.45, and I felt that her prognosis was hopeless. I discussed it with her parents, who were agreeable to her not being actively resuscitated in the event of acute deterioration. I mentioned at that stage that if she succumbed that a post mortem would be desirable and that the Coroner would have to be informed.

In the company of Dr Chisakuta I performed two sets of brain – stem tests neither of which showed any sign of life. After discussion with the transplant team, Lucy was electively extubated at 13.00 on 14th ~~August~~ APRIL 2000 and was declared dead at 13.15.

Earlier that morning Dr Stewart (who was then my registrar) made a note that I contacted Dr Curtis on behalf of the Coroner's and discussed the

case. The Coroner's Office advised that a Coroner's post – mortem was not required but that a hospital post – mortem would be useful to establish the cause of death and rule out other diagnoses. Her parents subsequently consented to post mortem.

Subsequently, Lucy was shown to have been suffering from rotavirus. Her post mortem showed cerebral oedema and bronchopneumonia. The brain was swollen and showed some signs of early necrosis. The bronchopneumonia was established and was felt to have been present for twenty four hours at least and could have happened, therefore, at Lucy's acute worsening at approximately 3 a.m. on 13th April.

Having discussed with the Coroner's Office, I subsequently interviewed her parents on 9th June and I encouraged them to re-attend Dr O'Donohue to clarify events in the Erne Hospital. I agree that the cause of death should be 1(a) Cerebral Oedema (b) Acute Dilutional Hyponatraemia (c) Excess Dilute Fluid II Septicaemia.

TAKEN before me this 17TH day of FEBRUARY 2004

Coroner for the District of Greater Belfast

CORONERS ACT (Northern Ireland), 1959

Deposition of Witness taken on the day of 20 , at inquest touching the death of , before me

Coroner for the District of

as follows to wit:—

The Deposition of DR. DONNCHA HANRAHAN

of

(Address)

who being sworn upon h ȳ oath, saith

Mr. Free: I agree with the views expressed that the fluid regime was incorrect. A more concentrated solution should have been used.

Mr. Good: I am not an expert on fluid management. I accept fluid documentation may have existed in RBHSC but I did not see it until 10.30 a.m. Donncha Hanrahan.

P.T.O.

TAKEN before me this 19th day of February 2004.

Coroner for the District of Greater Belfast

a(ıed: **Dr Donncha Hanrahan**

:ause of death should be 1(a) Cerebral Oedema (b) Acute Dilutional (c) Excess Dilute Fluid II Gastroenteritis.

agree with the views expressed that the fluid regime was incorrect. A nore concentrated solution should have been used.

am not an expert on fluid management. I accept fluid documentation nay have arrived in RBHSC but I did not see it until 10.00 am.