C05

0329

13 February 2006

Doctor Edward Sumner MA BM BCh FRCA
Consultant Paediatric Anaesthetist
[redacted]

Dear Dr Sumner

***RE ADAM STRAIN, RAYCHEL FERGUSON***

Thank you for your continued assistance and for your agreeing to meet us on the afternoon of 22 February 2006, prior to the main consultation on 23 February 2006. I will confirm the arrangements for the 22 February 2006 by email.

I have received documentation from various sources and in reading some relating to Adam I have discovered additional medical and notes which were not available to me when we last spoke. It may be of little significance but I am forwarding it to you. If it contains anything which would impact on your report regarding Adam already provided to police, then we can discuss this on 22 February 2006.

Can I ask you also to clarify the following issues from the papers you already have?

1. Can you confirm that Adam's CVP and BP from 0800 to 0900 hours during the operation warranted an increase in fluid?

2. When Adam was in theatre from 0900-1000 hours it would appear from your report that appropriate action was taken in relation to the red blood cells. Did additional action need to be taken in relation to the sodium level? Could a different action have been taken at that time? Was it already to late?

3. Again, in the period 0900-1000 hours you have stated the volume replacement was excessive for the stage in the operation and in the light of the total blood loss over the whole of the operation. Bearing in mind that Adam normally received 2100 mls fluid per day, is there arguably fluid overload at that stage?

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4. In relation to theatre from 1000 hours onwards you state that HPPF also contains sodium, would this have any bearing on Adam's sodium levels at this stage?

5. Can you give an estimate of how much extra fluid above a patient's normal fluid requirement would be given to ensure good perfusion during a kidney transplant?

I have also included two medical articles – "Prevention of Hospital – Acquired Hyponatraemia: A case for Using Isotomic Saline" by Mortiz and Ayus, and a Commentary Entitled "Reducing Errors in Fluid Therapy Management". These articles were sent by Dr Taylor, Anaesthetist for Adam Strain, to "Peter", possibly Dr Peter Crean in March 2003 with the comment, "See very recent debate in 'Paediatrics' on this subject. It is very complex and the 2 sides are very polarised". I would ask your opinion on the content of the articles and any bearing they may have on a prosecution or defence case. Furthermore, can I ask you to clarify what concentrations are required to be classified as hypotemic, isotomic or hyputomic?

I have also included papers from Dr Taylor for your consideration. I would ask that you highlight to me any comments he makes which are useful either to a defence or a prosecution case. I would point out at page 011-005-036, last paragraph, Dr Taylor comments on the "presence of normal monitoring signs". Were the monitoring signs normal – I thought the CVP was highly abnormal?

There is some uncertainty as to whether or not Adam suffered a long-standing problem with sodium. I note in his records for 26 November 1991 that his sodium was 118, that M/2 saline in 10% dextrose was given and that on 27 November 1991 his sodium was 130 and apparently later that day, 131. He continued to receive 0.45% saline with 15% dextrose, apparently at 6 mls/hr. I have forwarded the medical notes relevant to this period. In this very low sodium and then very rapid rise, significant in indicating a problem with sodium? Could it indicate he metabolised sodium erratically, and that doctors may not be able to control it?

I note that at 049-029-088 Dr Savage has prescribed what appears to be 0.18% saline in dextrose to replace fluid loss. Was this appropriate?

There is some uncertainty as to whether or not Adam had a long-standing problem with sodium levels. I have forwarded medical notes relating to an admission in November 1991. I note that on 26/11 his sodium was 118, on 27/11 after N/2 saline it was 130, then 131, on 28/11 it was 131, and on 29/11 it was 146, remaining in that area until it dropped to 135 on 4/12, but rising again to 142 on 5/12. The fluids prescribed are recorded. Can you advise me as to whether:

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1. The fluid management was appropriate.

2. If it was appropriate for Dr Savage (049-029-088) to prescribe what appears to me to be 0.18% saline to replace fluid loss.

3. If this variation in sodium levels indicates a problem and that Adam perhaps metabolised sodium in a way which defied management.

If this sodium fluctuation appears to be significant I believe you should then examine further old notes which are available. If you think this necessary, email me and I will bring them on 22 February 2006.

I have enclosed reports from the files of the Royal Belfast Hospital for Sick Children. I would ask you to consider these and comment on anything you think is relevant. In particular can I ask your opinion on:

(a) Page 059-067-155, bottom paragraph. Comment has been made elsewhere that fluid management was satisfactory to the extent that Adam's haemoglobin fell but was restored to the level at the beginning of the operation. Here we are told the loss level (6.1) is only an estimation. Does this indicate it was not measured intra-operatively?

(b) Page 059-067-156, first paragraph: "The donor kidney did not appear well perfused after an initial period of apparently good perfusion". If perfusion is good, and there clearly is a surplus of fluid circulating, what are the possible reasons for perfusion diminishing?

(c) Page 059-067-156, second paragraph: "CVP ... gave me no cause for concern". At what point would you have been concerned re CVP?

(d) Page 059-067-156, second paragraph, "a blood gas at 09.30 am ... any indication of problems". I understand this blood gas revealed a low sodium reading, and since the fall was so rapid, it indicated a very serious problem. Does this indicate that Dr Taylor failed to spot the low sodium, does his reaction to the blood gas result during the operation indicate an attempt to address low sodium? Compare to comment on page 059-004-007.

(e) Page 059-053-108, point 1: "The major argument used by both experts is seriously flawed in this case".

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(f) Page 059-053-108 point 2: is the blood glucose relevant?

(g) Page 059-053-108 point 3: is this a valid point?

(h) Page 059-053-108 last paragraph: is this a valid criticism of your opinion?

(i) Page 059-036-072 – please comment on paragraph entitled hyponatraemia and any other relevant statements in the letter.

(j) Page 059-014 –039 point 3: Can a gradient difference explain the CVP readings? Is the high CVP produced by an obstruction or by excess fluid?

There is no other documentation of relevance present, which I believe should be sent to you. As our interviews are ongoing, that position may change before 22 February 2006.

**WILLIAM R CROSS**
**D/SERGEANT**

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