The Inquiry into Hyponatraemia-related Deaths

Chairman Mr John O'Hara QC

SUBMISSIONS ON BEHALF OF DR ALISON ARMOUR

Introduction

1. On the 29th November 1995, Dr Alison Armour, registered medical practitioner and pathologist approved by the Northern Ireland Office, made a post-mortem examination of the body of Adam Strain, aged 4 years.

2. It was, a "highly complex and difficult case"[1]. Following further examination of Adam's brain, consultation with treating clinicians, professional colleagues and a review of relevant literature, Dr Armour reported that the cause of death was :

   "*1(a) CEREBRAL OEDEMA*

   due to

   (b) DilutionalHyponatreamia and Impaired Cerebral Perfusion during Renal Transplant Operation for Chronic Renal failure."[2]

3. After 17 years, a Coroner's Inquest, a lengthy investigation, a detailed public examination of the facts surrounding Adam's death at this Inquiry and a multitude of expert opinions, it transpires that Dr Armour's opinion that Adam's cerebral oedema and death was due to dilutionalhyponatreamia, was correct.

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[1] Autopsy Report : 070-002-009
[2] Autopsy Report : 070-002-002

4. Dr Armour's role and the steps she took should also be seen in the light of the observation by Dr Squier that there have been enormous changes over the last 10 to 15 years[3].

The performance of the Autopsy

5. At the time of the autopsy Dr Armour had been training and working actively in histopathology and autopsy pathology for 8 years. She had passed the MRCPath three years previously in 1992.

6. Dr Armour was, accordingly, fit for a consultant post and fit for independent practice in pathology.[4] She was, undoubtedly, well qualified enough and senior enough for this particular case and did not require close supervision.[5]

7. The autopsy request form[6] informed Dr Armour that Adam was undergoing renal transplant surgery for renal failure, which was "*apparently uneventful*" but that Adam was "*brain stem dead ..*" at the end of the case. Dr Armour was informed that CT scanning of the brain showed gross cerebral oedema.

8. The autopsy which Dr Armour performed was, in the opinion of Professor Sebastian Lucas [Consultant Pathologist and Emeritus Professor of Clinical Histopathology] performed competently.[7]

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[3] Dr Squier's evidence Transcript : 12th June p47 line 15
[4] Report of Professor Sebastian Lucas dated 25th May 2012 : 209-002-008
[5] Report of Professor Sebastian Lucas dated 25th May 2012 : 209-002-009; Transcript of evidence of Dr Squier 12th June p115-117 line 6
[6] WS-012/2 pg 26
[7] Report of Professor Sebastian Lucas dated 25th May 2012 : 209-001-005

9. The autopsy was performed at the Royal Victoria Hospital. The performance at that location is not surprising as in 1995, even if negligence at the hospital was suspected, the autopsy would still have been performed there[8].

10. Whether any specific recommendation needs to be made about the location of autopsy in Northern Ireland is a matter for the Inquiry, but even now the Guidance suggests it is a matter for discretion, which must be right[9].

11. There is, in the circumstances, no basis for the Inquiry to make any recommendations regarding the performance of the Autopsy by Dr Armour.

Dr Armour's Autopsy Report

12. The report itself [070-002-002 to 009] is a lengthy and detailed report. To assist with its production Dr Armour made notes WS/012/2 pg 19 – 22 and a draft WS-012/2 pg 23-25.

13. The final report produced by Dr Armour was considered by Professor Lucas and compared by him against the cohort of coronial autopsies examined by the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) in 2006.

14. It is to be noted that Dr Armour's report pre-dated the cohort (and accordingly any raising of standards over that 10 year period) by almost 10 years.

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[8] Evidence of Dr Squier Transcript 12th June p62 Lines 6-12
[9] Evidence of Dr Squier Transcript 12th June p62-66

15. Set against those standards Professor Lucas concluded as follows[10] :

*"Overall, in comparison with many of the coronial autopsy reports which I regularly review, and others which were reviewed in detail by NCEPOD (see below), this report I would grade as "satisfactory" or "good". **It addressed the central issue of cause of death and produced a coherent answer."*** [Emphasis added].

16. It is of course acknowledged that were some issues with regard to the report which Professor Lucas and Dr Squier commented upon in their expert reports, but as was acknowledged during the course of Dr Squier's oral testimony, Dr Armour got it right on the big points[11].

17. In no particular order and, insofar as it is necessary, the following observations are made :

    a. Ligation of the left internal jugular vein due to a suture. The weight of evidence, particularly after hearing from Mr McCallion[12] and Dr Squier, tended to suggest that it was very unlikely a suture was placed in such a location during earlier surgery in 1992. Dr Armour accepted that she was probably mistaken and was prepared to accept that it may well have been a piece of fibrous tissue[13]. The only impact was to negate the suggestion that impaired cerebral perfusion due to such ligation contributed to the extent of the oedema.

    b. The recorded brain weight. Dr Armour recorded the fresh weight at 1320g and post fixation at 1680g. She readily accepted that the fresh weight was probably a typographical error and should have

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[10] Report of Professor Sebastian Lucas : 209-002-004
[11] Transcript June 12th p115 Line 12 – Pg 116 and pg 136-137
[12] WS-232/1
[13] Transcript 13th June pg1

read 1520g (as opposed to 1320g)[14]. This had no impact on the findings, physical visible extent of the cerebral oedema (*"brain bulging through dura"*[15]), CT description of the brain as reported to her (*"gross cerebral oedema"*[16]) or the ultimate conclusions.

c. The final commentary. Professor Lucas felt this was over long. Whereas Dr Squier felt it was *"a very well worked commentary"*[17]

18. These issues do not warrant any recommendations by the Inquiry regarding Dr Armour's practice.

Consultation with Professional Colleagues

19. Dr Armour should be commended for the efforts she made to obtain formal and informal opinions from professional colleagues in to the cause of Adam's death. This demonstrated not only her diligence but her determination to come to the correct conclusion. They included Dr Bharucha, Dr O'Hara, Dr Sumner, Professor Berry and Dr Mirakhur.

20. Dr Mirakhur accepted that pathologists quite often asked for an informal second opinion[18]in 1995. Moreover given the particular features of Adam's case, it was perfectly acceptable for Dr Armour to have taken an informal second opinion. Adam's brain was obviously swollen to the naked eye and one didn't need a neuropathologist to tell that[19].

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[14] WS-012/2 pg 11
[15] WS-012/2 pg 22
[16] WS-012/2 pg 26
[17] Transcript 12th June p136 Line 22
[18]Transcript 12th June 2012 p5 lines6-19.
[19] Transcript 12th June 2012 p163-167

21. Dr Armour even did so despite the fact that in 1995 forensic pathologists did their own neuropathology as it was part of their training process[20].

22. There was no guidance in 1995 which warranted Dr Armour involving her line management, or getting her report countersigned.

23. These issues do not warrant any recommendation by the Inquiry regarding Dr Armour's practice.

Clinical Governance – Lessons Learned

24. Dr Armour did not attend a mortality or morbidity meeting at the Hospital[21] following Adam's death. She was never invited to do so.

25. This was despite the fact that she did write a letter offering to attend any meeting to discuss Adam's case[22].

26. Uniquely, amongst all of those involved in Adam's care or surgery, Dr Armour appears to be the only member of the medical profession to have written an article for publication to try and ensure that the intra-operative dilutionalhyponatremia which caused Adam's death should not happen again.[23]

27. In light of all of the above, it is respectfully submitted that the Inquiry does not need to make any recommendations regarding the performance of the autopsy by Dr Armour in this tragic case.

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[20] Transcript 13th June 2012 p44 Line 16- p45 Line 18
[21] Transcript 13th June 2012 p37 Line 13 – p39
[22] See the ketter dated 8th December 1995 : 011-023-123
[23] WS-012/1 pg 8 and WS-012/2 pg 15 response to Q30

GERARD BOYLE

3 SERJEANTS' INN

19TH OCTOBER 2012