IHRD Belfast LUCY CRAWFORD

(dod 14th April 2000), aged 17 months Autopsy by Dr. MD O'Hara on 14th April 2000, PM #57-00

Brief chronology

Brief chronology		
12.4.2000 – 7.30pm	Admitted to Erne Hospital, with fever and vomiting, drowsy.	
	Blood sodium 137, potassium 4.1. Rotavirus gut infection diagnosed retrospectively. IV fluids commenced at 10.30pm, or possibly a little later = 3 hours after admission.	
13.4.2000 – around 3am	7.5 hours post-admission, diarrhoea and a seizure, i.e. the beginning of CNS failure. At about 3.30am, blood sodium 127, potassium 2.5.	
13.4.2000 – 3.20am	8 hours post admission. Respiratory arrest. Pupils dilated & unresponsive.	
13.4.2000 – 6.30am	Transfer to Belfast PICU, arriving 8.30am. The abnormal electrolyte results are transmitted to RBHSC.	
13.4.2000	Brain stem dead clinically from arrival in PICU, confirmed later that day by brain stem function tests (this from Dr. Hanrahan's statement).	
14.4.2000	Treatment discontinued from 1pm; she dies at 1.15pm.	
14.4.2000	Dr. D Hanrahan discusses the death with Dr. M Curtis of the State Pathologist's Department; The Coroner's Office, following advice, did not take on the case for coronial autopsy	
14.4.2000 or later	Dr. C Stewart prepares the clinical information for the consented autopsy. This includes - Clinical Diagnosis: 'dehydration, hyponatraemia and cerebral oedema'	

14th or 15th April 2000

Consented autopsy by Dr. O'Hara.

See Appendix for discussion of actual date

4.5.2000

Dr. D O'Donoghue writes the cause of death certificate after discussion with Drs. Hanrahan & Stewart, and apparently seeing the autopsy report in the medical notes. This certification act was at the prompting of the family, and took place some three weeks after the death and the consented autopsy.

2004

Inquest held and the cause of death is stated to be:

- 1a. Cerebral oedema
- 1b. Acute dilutional hyponatraemia
- 1c. Excess dilute fluid
- 2. Gastroenteritis

Dr. O'Hara does not give evidence at the inquest; but his report (which has 'Cerebral oedema' as the sole cause of death) was accepted without discussion. By this time, Dr. E Sumner had produced his report (in 2002) focussing on hyponatraemia.

Brief for pathologist - report

Following the list of Specific Questions in section 175 of the original brief, plus Additional Questions:-

A1. What information should have been conveyed to Lucy Crawford's parents?

- (a) Purpose of the autopsy [to clarify the clinical events]
- (b) Any particular issues the parents wish to be addressed by the autopsy
- (c) Their agreement for tissue retention as appropriate not legally specifically required in 2000 in the UK
- (d) Proposed date of autopsy
- (e) Name of the pathologist if possible (i.e. if there is only one paediatric specialist pathologist, as here)

- (f) Date when body can be collected for disposal
- (g) When the autopsy report can be expected
- (h) Date when the report can be discussed between clinician and parents

A2. Should the pathologist have played any role in the process?

No, the pathologist is not necessarily involved in this process – apart from concurring on the date of autopsy – then (2000) or now, unless it is agreed beforehand

B. Does the pathologist communicate with clinicians obtaining consent for an autopsy?

The pathologist always expects to receive relevant and complete information from clinicians prior to autopsy, both via the medical records and often verbally; and he usually communicates directly with them. They also, usually, arrange to meet in the mortuary during the autopsy.

Exception: if a consented autopsy request is made without reference to a particular pathologist to do it (i.e. several appropriate pathologists available on the day). That would not apply in this case, if Dr. O'Hara were the only paediatric pathologist in the Department. Dr. Stewart's statement (115-022-001/2) indicates that he was the only such pathologist. On the other hand, the contemporary autopsy guidance document (see below) indicates that there were two paediatric pathologists on the staff at the time (the other being Dr. Claire Thornton).

C. What communications between treating clinicians and pathologist?

- (a) As above, before the autopsy relevant clinical data and, critically, what issues are being addressed by the autopsy?
- (b) In consented autopsies, the clinicians usually arrange to attend the actual dissection in the mortuary, discuss the case on site with the pathologist, and agree to meet again later when further investigations (histology, cultures etc) are completed. This is the English standard, familiar to trainees.

Dr. Stewart's report indicates that she spoke with Dr. O'Hara. But what was said, and whether she and/or others attended the autopsy and/or discussed the autopsy report with the pathologist – these things are not stated in her statement (115-022-001/2)

D. What is the purpose & significance of information inserted into the 'clinical diagnosis' section of an autopsy request form?

To present the pathologist with data and a clinical evaluation, to enable him to do the autopsy as well as possible and address the questions raised by the death.

See also Note P below.

E. How should Dr. O'Hara (pathologist) have interpreted the information in the request form?

He should have realised that the *diarrhoea / rehydration / low sodium / CNS collapse* history was pointing to a specific scenario – dilutional hyponatraemia with CNS damage. And then have moderated his autopsy process to accommodate this scenario, as well as confirming/excluding other possible clinico-pathological scenarios.

If he did not understand this scenario, or had not seen it before, he should have spoken directly with the clinicians – and done some reading of the literature. However, as is increasingly evident throughout the cumulative evidence presented to the IHRD, and including the most recent witness statements (Dec 2012) such as those from Dr. Curtis (see 275/1, section I(5)), recognition of the clinical significance of hyponatraemia was limited at that time.

F & G. Given knowledge of hyponatraemia, should Dr. O'Hara have taken more specific steps or made enquiries re its importance in causation of death?

Yes. Autopsy blood samples for electrolytes are useless, but vitreous humour (VH) can be evaluated for sodium and potassium (inter alia) and low values would be significant – if done whilst the blood hyponatraemia pertained. However in LC's case, the hyponatraemia was corrected on 13th April, thus there would be no abnormality in the vitreous at time of death.

Thus his most important act should have been to inspect the laboratory records in the case and note the chronology of abnormal electrolytes and the correlation with the clinical scenario. That is, think about the case in full, to address the questions raised by the death; and, critically, consult with clinical colleagues. In consented autopsies, in my experience, the clinicians demand discussion about the case and the autopsy findings soon after the autopsy – that did not appear to happen in the Lucy Crawford case.

H. What significance should Dr. O'Hara have attached to the drop in blood sodium?

He should have attached much significance; but I suspect he may not have encountered or read about this scenario before (see below, also re his letter to HMC, 23rd Oct 2003). See also above in E, concerning Dr. Curtis.

I. Was the autopsy done competently, and were the conclusions adequate and supported?

The gross autopsy dissection was done satisfactorily. Lots of microbiology was done, appropriate for a death in a child. The histopathology examination includes non-specific pathology, and omits some important items. For example, the depiction of the brain histology does not assist in understanding the chronology of the processes (which it often can do). The description of the adrenals is poor: "some features suggestive of mild distress" is imprecise, though noting the absence of medullary haemorrhage is more useful.

The description of the kidney does not mention the presence or absence of disseminated intravascular coagulation (DIC), an important feature of sepsis.

However, the basic significant pathologies are indicated:

- (c) Normal bowel mucosa as expected in viral gastroenteritis
- (d) Some acute bronchopneumonia
- (e) Brain damage that can be interpreted pathogenetically in various ways, but certainly includes hyponatraemic brain damage

Dr. O'Hara attached most significance to the bronchopneumonia, even averring that it could have been present at the original admission on 12th April, two days before death.

Pathologists like bronchopneumonia because it is visible and can cause death. However in this case, it is surprising that the pathologist did not consider the more likely scenario that the pneumonia was a ventilator-associated pneumonia (VAP) acquired in intensive care – a very common event, and evidently terminal and not causative of the clinical presentation. Given that LC was a healthy child prior to presentation, and chest disease was not a presenting clinical feature, to ascribe the cause of death to pneumonia is the result of not thinking the case through properly; i.e. not acting – in this case – as an experienced consultant pathologist.

Generally, unless they are experienced in corroborating clinical and neuropathological features, pathologists do not like difficult brain histology (as here) because they do not know what to do with it. This is another reason, probably, why Dr. O'Hara focussed on the lung, not the brain.

Note: I have not seen the histology slides of the brain or any other organ in this case.

Finally, the presentation clinical scenario – diarrhoea and vomiting – indicating prima facie a gut infection, was not considered as relevant in the pathological cause of death sequence. And yet it is self-evident that the gut problem started the whole sequence of events.

The shortcomings of pathologists in coronial autopsies are well known and are discussed in my previous IHRD report on Adam Strain. It is evident that similar processes occur in consented autopsies also, in terms of thinking cases through properly.

J. Should the pathologist have implicated the hyponatraemia in the cause of death formulation?

Yes, he should have implicated hyponatraemia in the cause of death sequence (see Other Comments, below). The process of the autopsy in this case is to consider all the reasonably possible causes and systematically confirm or exclude them. But there appears to have been tunnel vision because of the histologically evident lung inflammation, and I suspect, inexperience of the consequences of hyponatraemia on the brain.

His letter to HMC in 2003. This gives the appearance of being defensive. The bronchopneumonia can readily be a terminal phenomenon in this case. It could have arisen from either dehydration or aspiration following rehydration in hospital, or more likely in ITU as VAP (see above). Importantly, bronchopneumonia does not cause brain damage as seen here. Even if the inflammation is qualitatively significant, it does not trump the important reasons for the child's death (see 'Other comments' below).

ADDITIONAL QUESTION: Dr. Gannon reviewed the clinical history, autopsy report and the histology slides in order to present at the inquest. In the event, the original report was accepted without discussion, and by then (2004) the clinical review had firmly concluded that hyponatraemia was the cause of death. Dr. Gannon agreed entirely with Dr. O'Hara and 'would have come to the same conclusion'. <u>Was her conclusion correct?</u>

COMMENT: From my statement in paragraphs I above, I have to consider her conclusion incorrect. She had sufficient time to re-think the case. There is some confusion as to whether she was merely asked to familiarise herself with the report, so as to read it out to the Court; or she was to re-examine the original histology material and the report – which in fact she did. But I wonder whether she also saw Dr. O'Hara's letter to the coroner of 23rd Oct 2003.

If the question is posed: if a colleague is asked to present pathology evidence at inquest on behalf of the original pathologist and, on his/her preview of the case, comes to a different conclusion, what should he/she do? The appropriate outcome is to tell the coroner that he/she thinks another, and more correct, cause of death took place [this has happened to me several times, and that is what I do]. Discussion then ensues between witness and coroner.

Final Overall Comment on the Autopsy: In terms of the quality of the autopsy and the subsequent investigations performed, it did not matter in this case whether the autopsy was done as a medico-legal or a consented case: the right things were done at the time by the right people, even though the true diagnosis did not emerge until two years later, following Dr. Sumner's external report (2002).

However, had it been performed as a medico-legal case, a) it and the issues raised would have been in the public domain, rather than just internal to the hospital, from the start, and b) because of a previous related fatality, the coroner might have brought in an external review at an earlier stage. This could have highlighted the problems of the local fluid management policies, identified hyponatraemia as a recurring concern, and perhaps have prevented further morbidity and mortality.

K. Comment on the nature of the information provided to Dr. O'Hara prior to the autopsy?

The information provided to Dr. O'Hara was sufficient for him to grasp the questions raised by the death – but he did not think it through to their conclusion. The autopsy request form, as well as stating the hyponatraemia, also indicated the IV fluid infusions. He also knew about the vomiting and diarrhoea after presentation at the Erne Hospital.

That said, histopathologists are not expected to evaluate in detail the complex fluid balance calculations that pertain to electrolyte concentrations in the blood – that is better done by chemical pathologists and anaesthetists. But they are expected to realise the overall significance of the pre-mortem processes and laboratory data;

and in such a case as this, indicate that the abnormal electrolytes are important in the cause of death sequence.

A notable feature of Dr. Hanrahan's statement (WS 289/1) is that at the time he regarded the sodium level of 127 as not very significant and believes that the true level, which caused the cerebral damage, must have been even lower – and that the 127 reading probably followed a sodium bolus administered at Erne Hospital. This area is difficult for pathologists to deal with given their normal expertise, and emphasises their need to seek assistance in interpretation.

L. When, in a consented autopsy, should the pathologist consider reporting to a coroner?

The remit of HMC is the identification and investigation of known or suspected 'unnatural death'. Specifically in the Coroner Act (NI) 1959, deaths shall be notified to HMC if there is suspected 'negligence or misconduct or malpractice on the part of others'. This particular death should have been regarded by all – clinicians and pathologist – as self-evidently unnatural. I suspect that the parents probably realised something was unusual and perhaps amiss:

- (a) The child was admitted to Erne Hospital with a common clinical presentation for which there is much experience in management (and, no doubt, practical guidelines on the specifics of care)
- (b) She was ill at this time, but speaking as a pathologist reading the accounts not severely ill, and not at death's door shortly after admission
- (c) The critical collapse came after initiation of IV rehydration and with documentation of low blood sodium and potassium indicating excess dilution of the blood (ie an iatrogenic event, which in medico-legal parlance = 'unnatural').
- (d) This scenario has to be regarded as 'unnatural' anyway. Normally children admitted and treated for D&V due to virus infection recover well.

M & N. Should Dr. O'Hara have invited HMC to take over the case and, perhaps, also hold an inquest?

The decision on opening an inquest is made by HM Coroner.

The clinicians and the pathologist (if the former had not) should have reported the case to HMC – see above. Why the coroner office did not take on the case is explained by the conversation between Drs. Curtis and Hanrahan.

The case could, after the autopsy, have converted to a medico-legal autopsy so that the question of an unnatural death could be investigated. Consideration of this issue is part of the GMC duty of care for all doctors. But, although it is not clear from Mr. Leckey's statement (WS 277/1), the first version of the report in 2000 did not mention hyponatraemia in the commentary on causation of cerebral oedema. The second version, dated Nov 2003, does include hyponatraemia in the commentary.

ADDITIONAL QUESTIONS: if a pathologist (i.e. Dr. Curtis, a state pathologist) is told that a previously healthy child has died of gastroenteritis in hospital setting, should he be seeking further information before concluding that the death was due to natural causes? <u>If so what further information should have been sought?</u>

COMMENT: We have his account that the fact of gastro-enteritis, but no significant background information concerning hyponatraemia, was mentioned during the phone call to the Coroner Office. Interestingly, he has not (in 2012) come across a case of his own of hyponatraemia (iatrogenic or otherwise) causing death. This reflects the general ignorance of the potential seriousness of the condition among clinicians and pathologists at that time. 'Gastro-enteritis' per se would not normally be of interest to HM Coroner, being a 'natural' clinical pathology, although that statement should be qualified according to circumstance, e.g. death in children, which usually activates more attention than death in adults.

However, Dr. Curtis was informed of the patient's clinical triad: 'gastroenteritis, dehydration, brain oedema'. As by now well understood, whilst gastroenteritis leads to dehydration, dehydration cannot lead to brain oedema of itself. It requires the intervention of (e.g.) low sodium over-hydration to produce the oedema. Thus, proper consideration of the case at this stage should have dictated that further questions needed to be answered, and that the case should properly be taken on by the coroner for investigation, since it did not add up pathophysiologically, and was unexpected.

Thus, it was not, at this level, reasonable for Dr. Curtis to advise that a coronial autopsy was not necessary, and he should have made further inquiries into the causation of the brain oedema. It should also be noted, for perspective, that a) neither Dr. Curtis nor Dr. Hanrahan can recall precisely what else was said during their telephone conversation, b) we do not know how busy or distracted Dr. Curtis was at that moment, and c) that there is a modest literature concerning the interactions of coroners and reporting doctors which highlights the wide variation in outcomes (i.e. death accepted for investigation by the

coroner, or not) even when the presenting features are clear cut. This has been cited in previous evidence to the IHRD.

FURTHER COMMENT: in the light of Mr. Stanley Millar's reported conversation with Dr. O'Hara on 16th June 2000, "dehydration was an important factor....children can crash very quickly and delay in getting [IV] fluids could be critical".

This is interesting, since delay in getting fluid into a child with gastroenteritis (i.e. dehydrated) is not mentioned in any version of the autopsy report. But it reflects that Dr. O'Hara was still thinking about the case, and identified a circumstance that certainly should have prompted consideration of inappropriate medical treatment, and perhaps referral to the coroner in retrospect. This is in addition to catchall category of referring cases where the death was 'sudden/unexpected'.

O. Key issue here, the question in full is: "In a case where a post-mortem has taken place, what steps should be taken and what information should be obtained by a clinician before certifying the cause of death, and should the pathologist play any role in this process?

When there is a death in the U.K., only two things can happen: the case is reported to a coroner (or procurator fiscal in Scotland), or the caring clinician writes a death certificate that is taken to a Registrar of Births and Deaths for death registration; the certificate includes a natural cause of death sequence (otherwise it will be bounced back to the coroner by the Registrar). If it is reported to a coroner, he may accept that case; or tell the clinicians – as appears to have happened in the Lucy Crawford case – that they should complete a natural cause of death certificate.

When the HMC is not involved, the clinicians prepare the cause of death for registration; only then is the issue of a consented autopsy formally addressed. Consented autopsies only take place where the cause of death is natural and satisfactory for registration (i.e. a coroner has not taken the case on under his jurisdiction). See P Note below for more on this.

Thus usually the pathologist has no role in formulating such causes of death. However, in general, pathologists are often asked for their assistance in formulating cause of death (because in general they should be better at it than clinicians).

P. Dr. O'Donoghue's actions before writing the death certificate.

Dr. O'Donoghue's death certificate: see [Ref: 013-008-022]. It appears to be:

- 1a. Cerebral oedema
- 1b. Due to dehydration
- 1c. Due to gastroenteritis

This version, unlike all the others produced in this case, at least has the correct bottom line (1c). However, it is still illogical. 'Dehydration' is not going to directly cause brain swelling. See below.

Note: the date of this certificate is given as 4th May 2000. Very irregular that it should follow much later after the autopsy. The norm (see above) is that a doctor writes a natural cause of death, which is then registered officially, at which time the consented autopsy can go ahead. I am informed that Dr. Stewart, when writing the request for autopsy, left the cause of death section blank [Ref: 061-022-075], confirming that there was not a registered or registerable cause of death documented prior to the autopsy.

To – apparently – wait for the autopsy (+/- the report) before writing the death certificate is (at least) inappropriate, and possibly an infringement of the law. The Births & Deaths Registration (NI) Order 1976 .is silent on the chronology of cause of death / registration of death / autopsy – as is the English version. However, it does require the treating doctor to "sign and give forthwith to a qualified informant" the certificate. The current wording from the DHSSPS in NI is even clearer: "medical practitioners have a legal duty to provide, without delay, [my underline] a certificate of cause of death" So the proper sequence is as the historical standard practice: the death certificate is completed before commencing the process of obtaining a consented autopsy.

ADDITIONAL QUESTION: Drs Stewart, O'Donoghue & Hanrahan indicate that it was the practice in the RBHSC to await the preliminary autopsy results before issuing a death certificate. Further, the contemporary guidance ('Autopsy procedures for children dying in the RBHSC', document 319-067a-031/2) states [following the autopsy] "the pathologist will telephone the ward with the result and a death certificate can be issued if this has not already been done". Was this an appropriate practice?

COMMENT: I find this increasingly bizarre, for the reasons previously stated above in P. In addition, it perverts the whole coronial referral

system for ?unnatural death, for following a consented autopsy, more people (ie including the pathologist) could more readily conspire to hide a genuine unnatural death from public notice. The usual process – natural death certificate or referral to the coroner – makes the doctors think promptly about why someone died and what to do next.

This is a very serious issue and could be examined in more detail at the hearings, including witness from the medical directors of the hospital.

ADDITIONAL QUESTION: Was it appropriate practice for clinicians in the RBHSC not to attend autopsy (or the autopsy review) on their patients?

COMMENT: On the autopsy request form it does state that the doctor would not be attending the actual autopsy; presumably this is what you mean be 'review session'. This is strange, as is Dr. Stewart's statement that she had never done so nor had been asked to do. The usual UK practice for all time has been that relevant doctors come to the mortuary to see part or whole of the consented autopsy and discuss the gross findings with the pathologist; also discuss the evident or possible diagnoses, and what will be done next. This is the essence of clinico-pathological correlation, and how we all learn.

This issue of clinico-pathological correlation (CPC) was also a critical issue in the Claire Roberts case. To repeat, it is at CPC that all the issues in a case are discussed and resolved, as far as they are resolvable (for not all deaths do have a completely satisfactory pathophysiological explanation). The clinical presentation, laboratory data, imaging, differential diagnosis, and the autopsy results are considered all together to determine what actually happened to the patient who died; and the consider what can be learned from the case for future practice.

The CPC is arranged mutually between pathologist and clinicians, usually in a regular timetabled audit/review session. This is, after all, hospital-funded work concerning hospital patients. In medico-legal (coronial autopsies), where a coroner is often cautious about conversation between clinician and pathologist, the issue is different. But in consented autopsies, it is expected that clinicians will discuss cases in real time. Further, given the overarching obligations of clinicians to report appropriate deaths to a coroner, local investigation of this death would or should – given that it was unnatural – have led to it being reported to the coroner.

It is unclear how this practice actually worked in the RBHSC at that time. Some of the doctors' reports indicate that regular CPC reviews took place (but not for this case). However, there is also the contemporary guidance ('Autopsy procedures for children dying in the

RBHSC', document 319-067a-031/2) which indicates no such reviews at all – only a phone call to the ward with an autopsy result, a provisional written summary the next day, and the final report sent to the consultant clinician 'several weeks later'. There is no mention of doctors attending the autopsy either.

In summary, in my experience, this is all strange. Consented autopsies involve the cases where clinicians specifically want to know what really happened, and in England (at least) they come to the mortuary unless prevented by other duties, discuss the cases in real time, and always have some form of later interactive meeting to discuss the case. This is how discrepancies in the case are aired and resolved, diagnoses changed often, and lessons learned.

Q. Aspects of the case for recommendations to improve the practice of pathologists in the conduct of autopsy work.

There are many aspects of the case that could be the basis for recommendations, as is evident from the comments above. Some issues relating to medico-legal coronial autopsies have already been aired in the IHRD case of Adam Strain and are not repeated here.

For consented autopsies, the key proper processes include:

- 1. They can only happen once a natural cause of death certificate has been written by clinicians and is accepted by a Registrar
- 2. There should be appropriate communication between clinicians and pathologist: including the medical records and discussion of the questions raised by a particular death
- 3. The clinicians asking for the autopsy should attend the autopsy in the mortuary, or send an informed member of the clinical team; this enables discussion of the clinical pathology and where the findings might be leading to see also above in P.
- 4. After the autopsy process and relevant post-autopsy investigations are concluded, the clinicians and pathologist meet to discuss the case and any implications the outcome may have (e.g. for future medical practice, and improving autopsy protocols also)
- 5. The relatives of the deceased are informed of the outcome, and are invited to meet with the clinicians to discuss the death; the pathologist may or may not take part in such discussions

- 6. The autopsy report should be presented to the relatives, if they want it; it should also be sent to the patient's general practitioner.
- 7. Consented autopsies are always opportunities for furthering the professional development of pathologists and clinicians (in contrast to coronial autopsies, which often are not) and are to be encouraged.

Other comments

Cause of death

The various versions are:

Clinical - 1:

- 1a. Cerebral oedema
- 1b. Due to dehydration
- 1c. Due to gastroenteritis

Clinical - 2: on autopsy request form:

- 1a. Brain stem death
- 1b. Acute coning
- 1c. Cerebral oedema
- 1d. Dehydration and hyponatraemia

Pathological:

1a. Cerebral oedema

.....with discussion of bronchopneumonia in the first version, then bronchopneumonia and hyponatraemia in the version prepared for the inquest.

HM Coroner at inquest:

- 1a. Cerebral oedema
- 1b. Acute dilutional hyponatraemia
- 1c. Excess dilute fluid
- 2. Gastroenteritis

14

Looking at the case as a whole, it is extraordinary that no one proposed the true complete logical formulation of cause of death as below (I have added in the rotavirus since it must have been known within a week of the samples being taken):

- 1a. Cerebral oedema due to hyponatraemia
- 1b. Rehydration for dehydration caused by diarrhoea and vomiting
- 1c. Viral gastroenteritis (rotavirus)

2. -

The fundamental cause of the child's illness and her admission to hospital has to be the lowest line in part 1 of the death certificate – by international (WHO) agreement. It should <u>not</u> go into part 2 (which contains only processes that contribute to death but are not fundamental). Putting the rehydration into 1b points the way to the final events (1a) and also reinforces the iatrogenic factors in the death.

Prof Sebastian Lucas

Dept of Histopathology

St Thomas' Hospital

London SE1, UK

May 2013

Lum,

Appendix

When did the autopsy on Lucy Crawford take place?

She died in the afternoon of 14^{th} April 2000. Was she autopsied that day or the next? The documents in the case are confusing as they suggest an autopsy on 14^{th} April.

To have the autopsy done the same day (afternoon) as the death indicates either extreme and unusual urgency; or the wrong dates written down. It is unusual for non-homicide autopsies to be done the same day as death.

The main 2000 autopsy report (013-017-063) does not indicate the date/time of death – unusual and remiss. But, confusingly, the supplementary autopsy report dated 6th Nov 2003 (013-017-063) gives the date of death as 13th April and of the autopsy as 14thApril.

There are Microbiology records of material reportedly sent thence from the mortuary. Usually, such specimens are received at and logged into a laboratory on the day of the autopsy. However, here they are ambiguous. The specimens listed, with lab numbers and documented dates of receipt are:

R Lung	lab no 607500	received 14 April
Trachea	lab no 607502	received 15 April
Liver	lab no 607503	received 15 April
Intestinal contents	lab no 607504	received 15 April
R Lung	lab no – not given	received 15 April

One would expect all the specimens to have been booked into the laboratory at the same time. But sometimes they are split up, or only some are booked in on the day of receipt (especially if it is late) and the others are carried over until the next working day.

Inspection of the mortuary logbook would resolve this issue (assuming such logs are retained).

It should be emphasised that this confusion makes no difference to the evaluation of the autopsy-derived information.

LUM

SB Lucas

16