24 September 2015 (dictated 21 08 15)

₹e: [Child C	DOB	PD 106/2015
	Personal Data	Hosp No.	Child C
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 I&S
 minimal resuscitation efforts were continued over the next 40

 minutes until
 I&S
 By that stage, a little surprisingly, Child C did

 have a weak pulse and was making gasping respiratory efforts.
 It was not appropriate to

 offer further active treatment at that point and Child C was left in the care of yourselves and
 other family members and about 5 hours later residual signs of life ceased.

I&S

Although there were several risk factors in Child C that increased the probability of death following his delivery, it still was not expected that he would die (at least until a severe complication, such as NEC, had developed), and it certainly was unexpected when he experienced a cardiorespiratory arrest at the end of the PD day of life. Child C's post-mortem results are only available provisionally and though it was very helpful of the consultant pathologist to provide a verbal report, strictly the results of Child C's post-mortem are not supposed to be known until the report is released by the Coroner. However, the consultant pathologist is well aware that you would be very anxious to know of the post-mortem results which is why he kindly provided a verbal report even though this is strictly "against the rules". Child C's post-mortem does not appear to have provided an obvious cause of death but, I'm afraid, this is the outcome from some post-mortems (including those from premature infants who sadly die). No signs of infection were found in Child C and bacterial cultures taken postmortem were negative. He did have evidence of resolving hyaline membrane disease in his lungs (the histological correlate of surfactant deficient respiratory distress syndrome). The pulmonary arteries were thickened but this is a finding in new-born infants, and is more marked in premature infants with respiratory distress syndrome and wouldn't be expected to cause Child C's death.

The pathologist was impressed by the patchy myocardial ischaemia in Child C heart and, until I have discussed the PM with him by phone, he had felt this could have caused Child C's collapse. He based this assumption on the fact that when there is a sudden cardiorespiratory collapse this will lead to myocardial ischaemia but it takes some hours for the cellular changes (histological changes) to become apparent. Therefore, because Child C had clear signs of patchy myocardial ischaemia, the pathologist had assumed this problem must have developed during the few hours before he suddenly collapsed because if he died at or shortly after the resuscitation this would not have allowed time for the ischaemic changes as a result of that collapse to have become obvious when later examining the heart. However, when I pointed out to the pathologist that because of the slightly unusual, prolonged nature of Child C's resuscitation (even though the latter part of the resuscitation was only intended to be a relatively token effort pending the baptism), some signs of life had returned and it was some hours later that child c finally died. This would probably have allowed the myocardial ischaemia that would have been expected at the time of Child C's collapse (and during his resuscitation) to have become established histologically since Child C's death did not occur for some hours after his collapse and resuscitation. Had Child C shown no signs of life after

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Re:	Child C			DOB	DOB PD/06/2015		
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the initial resuscitation effort had ceased, then it would be true to assume that any clearly established myocardial ischaemic changes at post-mortem indicated this ischaemia had begun prior to the sudden collapse. I'm sorry to have gone into some detail over the finding of patchy myocardial ischaemia in Child C but it's entirely understandable why the pathologist thought this might have been the cause of Child C's collapse but, on taking his history into careful consideration, particularly the fact that he died sometime after the resuscitation raises the distinct possibility that those ischaemic changes followed the sudden collapse rather than preceded it. After this discussion with the pathologist he was going to review Child C's myocardial findings and seek opinions from other experienced pathologists so only once the final post-mortem report is available (possibly not for a few more months) will we know what the pathologist has concluded as the likely cause of death (plus any underlying factors that contributed to the death).

Even if Child C had suffered from myocardial ischaemia that led to his collapse, the cause for this is not clear - particularly because the pathologist tells me that careful analysis of Child C's coronary arteries, and the structure of his heart, did not reveal any abnormality. It is possible that the stress of being born prematurely, having surfactant deficient RDS (with associated pulmonary vessel hyperplasia) and being markedly growth retarded through chronic placental insufficiency (which itself causes low grade chronic ischaemia), simply proved too much for Child C I accept this isn't a precise cause of death but I know that in some premature infants who die, and even after a detailed post-mortem, the cause of death is merely assumed to be the result of extreme prematurity without any various specific cause for the death being identified.

No malformations of any organs were identified in Child C which is of some reassurance with respect to future pregnancies. There was not even any evidence of NEC, although this does not mean that this condition might not have developed had Child C survived. We already knew that the minimal milk feed Child C had been given shortly before he collapsed was most unlikely to have been contributory, and the post-mortem did not suggest any connection between that very small milk feed and Child C's death.

From the perspective of Child C's postnatal care, the post-mortem has not provided any information that would alter how a future baby of yours would be managed any differently postnatally. Clearly things had not been progressing normally with Child C's pregnancy before his delivery and I know you've discussed this with Mr MacCormack because this is the area where he is able to advise on the management of a future pregnancy (and I know you are awaiting the outcome of the thrombophilia screen).

I was sorry to learn of your negative experience with the Bereavement Office at Alder Hey Children's Hospital. I do hope you are able to go ahead, as intended, to feed back on your experience to the staff in that office. I would hope that they are doing their best for bereaved parents but they need to know of your experience and hopefully other parents in a similar

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