paralysing medicine and I increased the settings on the ventilator to help her a bit more. I also planned to repeat the breathing blood gasses test in an hour.

I was called to Child I at 0400hours as she was not improving despite the manual breathing support and I noted that the capnography was negative so no carbon dioxide was coming out of the breathing tube. We removed the breathing tube and replaced it. I documented that the tube seemed to pass freely into where it should be going but the tests and the examination suggested otherwise so I took it out and put in another one. Again it seemed to go in nicely but the tests said otherwise so I took that one out too and put in a slightly smaller one and again the tests showed it wasn't in the right place. I suctioned the tube and it still wasn't helping. I took that one out and had a look in her mouth and used the suction tube down between her vocal chords, where the tube would have gone and sucked out quite a large amount of clear thick secretions and then replaced the tube a fourth time. It's not unusual for babies on breathing support to get secretions like that but it was a bit unusual for them to be so stubborn at being removed. By that point we had started chest compressions due to low her low oxygen levels and her low heart rate which was 50-60 bpm. She had chest compressions for 2-3 minutes and I called in Dr Saladi (the on call consultant). But after we removed the secretions and got the 4th tube in, she then improved using a breathing mask and her oxygen levels came up to between 80 and 100%. There was some air entry from her lungs but she still had this squeaky sound from the left lung which suggested there were still some secretions there.

The secretions present could have been a bi product of what had happened to Child I over the 13th and 14th. To have secretions that caused so many problems with the breathing tubes over a short space of time was uncommon, but explainable by the amount of breathing support she had been having.

My next note was then on the 19th October at 0950 hours. This was a ward round. I noted the gestation Child I was born and that she was now full term and I summarised her background problems, which were prematurity, being on minor breathing support and suspected NEC and that she was on day 7 of antibiotics for that.

I went through each of her systems. Breathing wise she was having some support, just a small amount of Optiflow. She'd had a good breathing blood test and otherwise her breathing system seemed completely normal and she was doing well.

I noted she was having nutrition into her veins and was nil by mouth, but otherwise her fluids and salt levels were normal and she was passing urine. The notes said that Child I was not being administered with intravenous lipids (a type of fat added to intravenous nutrition) due to some problems with her long line which had been occluding the day before.

I assessed her risk of infection. Her blood cultures they would have done when they were concerned about NEC and germs growing in her blood had come back and were negative and her infection markers were normal. In this case it would be possible that there were still some effects of NEC but it was reassuring that there were no markers of this

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Her neurological system seemed normal and I had no concerns. She was pink and active. Her breathing and cardiovascular examinations were normal and her soft spot was soft and normal. Her abdomen was non distended and soft and non-tender. She had normal bowel sounds and the long line she had, looked clean and had no sign of infection. I discussed her with the surgical team at Alder Hey and the registrar there who said he would discuss her with the on call consultant. There was a query about arranging another investigation for her to have a barium x-ray of her tummy to see if there was any explanation for her tummy problems. A barium x-ray can give a clearer picture of any blockages in the bowel.

I discussed with our team about arranging some genetic blood tests. The plan was to put her back on full TPN and restart the lipids, keeping her nil by mouth and stopping her antibiotics later that day and stopping the little bit of breathing support she was on and do breathing blood gasses, if she remained well. Everything looked good at that stage.

My next notes were on the 22nd October at 1130 hours. I presume this was another ward round entry. She was 37 plus 6 weeks gestation, PD days old. My notes say she was born prematurely and was having

episodes where her abdomen seemed distended and we didn't know what was causing those. On this occasion she was breathing normally in air. She was having all her nutrition through TPN and was passing urine. She had no aspirates from her feeding tubes, no regular medication and there were no concerns about infection. She had a long line in her right leg and was pink and alert and

handling well. It was a normal breathing and cardiovascular examination, a normal neurological examination, and a normal abdominal examination and the long line site looked clear. The plan was to chase up the previous investigations, the contrast enema (barium X-ray), and keep her nil by mouth until then.

I know Child I sadly died in the early hours of the 23rd October. I found out that morning when I came in and had a hand over from Dr Rachel Chang and my feelings were of surprise and sadness. I was surprised because when I saw her on the 22nd, based on my assessment of her, she seemed so well.

She was one of the cases that I always wondered about, as to how she could be so well at one point and then so poorly the next. We are trained to spot patterns and use pattern recognition to explain things, whether that's NEC or infection, but it's very hard to spot a pattern with Child I that gives an explanation as to what happened to her.

I didn't have specific concerns about Child I beyond the overall pattern of events, or lack of a pattern, but I don't recall ever there being a good explanation or understanding with Child I as to why she had episodes where she became unwell so quickly and sadly died.

Signature: M.NEAME Signature witnessed by:
2020