I&S

From: Brearey Stephen (COUNTESS OF CHESTER HOSPITAL NHS FOUNDATION TRUST)
Sent: 22 June 2015 19:41
To: Jayaram Ravi (COUNTESS OF CHESTER HOSPITAL NHS FOUNDATION TRUST)
Cc: Powell Eirian Lloyd (COUNTESS OF CHESTER HOSPITAL NHS FOUNDATION TRUST); Newby Elizabeth (COUNTESS OF CHESTER HOSPITAL NHS FOUNDATION TRUST); Saladi Murthy (COUNTESS OF CHESTER HOSPITAL NHS FOUNDATION TRUST); Peacock Debbie (COUNTESS OF CHESTER HOSPITAL NHS FOUNDATION TRUST); Davies Joanne (COUNTESS OF CHESTER HOSPITAL NHS FOUNDATION TRUST)
Subject: Death on NNU.

Hi Ravi,
Just to confirm that I have met with Eirian and reviewed the case notes of Child D PD who died in the early hours this morning. We have also discussed whether there are any other issues to address in view of the two other recent sudden deaths on NNU.

In regard to the 3 deaths:

- All deaths occurred in room 1, our intensive care room, but in different cot spaces.
- All microbiology results have been negative to date.
- Initial post mortem result for Child A did not identify any definite cause of death. I&S I&S I&S The other two PMs are in process.
- Child D was not on TPN and died at less than PD days of age, so nosocomial infection is very unlikely.
- There does not seem to be any staff (medical or nursing) members present at all three episodes other than one nurse, who was not the nurse responsible for Child D on that shift.

With regard to Child D care:

It appears that neonatal GBS sepsis following prolonged rupture of membranes is the most likely cause for death.

Child D was born 1601, PD June after PROM of about 36 hours at 37 weeks gestation. Although her initial APGARs were 8 and 9 at 1 and 5 min, she was pale and floppy in Dad ' s arms at 12 min of age and required inflation breaths. Grunting persisted, and she was brought to NNU at about 3-4 hrs of age. Initial saturations were 48% in air, with temp instability and poor respiratory effort. She received iv antibiotics, an iv fluid bolus and nasal CPAP. Blood gas showed a mixed resp and metabolic

acidosis (pH7.1) and blood sugar of 4.2. Bilirubin was 92 consistent with early infection.

She was still tachypnoeic and had a high oxygen requirement at 2145 so was intubated and went onto mechanical ventilation. Capnography was used and showed CO2 throughout. Curosurf was given at 2300.

21 st June, PD day of life, Child D was extubated at 0900 successfully, but received a further fluid bolus at 1100 due to raised lactate and poor cap refil. UVC and UAC were attempted at 1325. UAC was low lying and removed, UVC was high and withdrawn to 6 cm – both appropriately imaged and changes documented. 1900 gas was borderline pH 7.11, pCO2 9.0 and CPAP was commenced. Baby was too unstable for LP and thought to be too unstable when trialled off CPAP.

Child D only received 4ml of EBM so any aspiration was unlikely. Na was 126, possibly indicating a CNS focus of infection. Cefotaxime and increased dose of Benzyl Penicillin were given.

22 nd June Child D became mottled at 0140 and subsequently arrested. Subsequent resuscitation efforts were unsuccessful but record of resuscitation efforts are well recorded and seem appropriate.

In summary, Child D is most likely to have suffered from early neonatal sepsis which she showed signs of from 12 min of age and she continued to be unstable on NNU despite iv antibiotics. Although there are some minor practice points that would be appropriate to discuss at a perinatal meeting (such as the time taken before she was admitted to NNU) it seems unlikely that these would have changed the final outcome. It would be helpful to know if the is any microbiology evidence from mother or baby and we are awaiting the PM report. I would be very surprised if Child D death is linked in any way to the previous recent deaths of Child A and Child C

We have agreed an action plan however:

1. I will review Child A and Child C case notes in detail this week.
2. I will review Child A preliminary PM report which I have not seen yet.
3. I will discuss with Microbiology to make them aware of the deaths and ask them to review all the results.
4. Eirian will check the thermometers used, the incubators used and that the antibiotics prescribed and signed for were actually given.
5. I have briefly discussed with Jo Davies already, but if there is any placental histology or maternal microbiology or biochemical evidence of infection for Child D this will be helpful to know.

I ' ll keep you informed.

Best wishes,

Steev

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