

Summary of cases

1. **Child A**

31⁺² twin 2 1660g born **PD** June, died 8th June 2015

i&s and severe hypertension **PD** 5 years ago.

Born after CS and was bradycardic. Required 3 sets of inflations breaths before heart rate improved. Stabilised easily on NNU and receiving CPAP, iv antibiotics and iv fluids. UVC inserted but tip was noted to be in left lobe of liver. Peripheral long line inserted. Sudden respiratory arrest and subsequent cardiac arrest at **PD** hours of age. Did not respond to resuscitation.

Twin 1 had a respiratory arrest 24 hrs later but responded to resuscitation. Case discussed with specialists in Liverpool and a number of blood investigations undertaken. Management recommended for Twin 1 no different to twin 2.

Awaiting full PM report. Preliminary report did not identify any macroscopic abnormalities. UVC in liver but no significant clots present and no perforation.

2. **Child C**

30⁺¹ 1800g born **PD** June, died 14th June

Severe IUGR and absent end diastolic flow. Oligohydramnios.

Initial brief period of mechanical ventilation and surfactant given. Initial raised lactate and other blood markers of infection. Iv antibiotics and TPN started shortly after birth. Never opened bowels. Distended small bowel on AXR and bile stained aspirates. Received fluid boluses for poor perfusion but unable to gain arterial access for invasive BP monitoring. Poor perfusion and respiratory arrest on 13th June followed by asystole. CPR discontinued after 30min.

Awaiting PM but likely diagnosis of acute bowel obstruction and/or sepsis with background of extreme prematurity and IUGR.

3. **Child D**

37+13130g born [PD] June, died 22nd June

Prolonged rupture of membranes. Floppy and apnoeic at [PD] of age but responded to inflation breaths. Admitted to NNU at [PD] of age with poor perfusion and sats. Iv antibiotics, iv fluid bolus and nCPAP given. Received mechanical ventilation overnight and respiratory status improved. However cardiovascularly unstable with blood markers for infection. Acute episode of poor perfusion prior to respiratory arrest and asystole. 25 min CPR and asystole protocol prior to death.

Awaiting PM but most likely diagnosis overwhelming early neonatal sepsis following PROM.

Learning from these cases

There was notable excellence in practice and record keeping in all three cases. Although, the following points are unlikely to have influenced the outcome, the following points for discussion and improvement in practice were noted:

1. No record of capnograph use following intubation. However, doctor recorded see ETT pass clearly through cords and good chest movement verified by consultant. ETT left in for PM - no comment that it was incorrectly placed on preliminary PM report.
Delay in debrief.
2. Delayed cord clamping in preterm babies not hospital policy yet.
Mask CPAP - no recorded use in Delivery room.
Small delay in antibiotics and PN starting.
Difficulties with arterial access.
Delay in glucose monitoring.
NGT not in place during AXR.
Iv ranitidine use for bile stained aspirates.
Possible need for further discussion with tertiary centre after initial contact.
Second AXR possibly indicated.

Time not recorded on one entry.

- 3. Possible indication for admission to NNU after floppy episode at **PD** of age.
Possible indication for admission to NNU at **PD** of age due to hypothermia and grunting.
Cardiovascular instability at time of extubation.
Antibiotics: Cefotaxime added and BenPen changed to 8 hourly. Gentamicin might have been given early.

COCH Neonatal Mortality (Deaths in NNU >24/40)

2008	2009	2010	2011	2012	2013	2014
4	1	1	3	3	2	3

COCH 2015:

11% of network admissions (192 of 1714)

13% of deaths (3 of 23)