Calderdale and Huddersfield NHS Foundation Trust

ED Case of the week 2

Learning points

- Approach to the collapsed baby
- IO Access

The Case:

- 5 month old baby, born term in good condition, with no antenatal or postnatal concerns.
- Pre alert stating hypothermic and unresponsive baby, 5 minutes until they arrive.
- Improvement in alertness with warming but GCS remained low. Also noted to be bradycardic 70-100

Preparation time - we have be given a pre alert, how should we use this time?

I like to think of 4 categories we need to prepare:

- **Environment**
  - Plan to receive the patient in resus
  - Is there a trolley there? Is it clean?
  - If there is no space can we move less acute patients?
  - In a very little baby do we have a resuscitaire?
- **Team**
  - Do we have an ED Doctor and a Nurse? Does the Consultant know the patient is arriving?
  - Do we need additional people on arrival? e.g. Paediatric SpR, Anaesthetic SpR
- **Equipment**
  - Do we have oxygen and is it working?
  - Have we prepared an IV access trolley? Do we have an IO kit available?
- **Drugs**
  - **Prepare your WETFLAG - have this checked and easily visible to the team**
  - Note on calculator - Fluid bolus is now 10mls/Kg not 20ml/kg
  - For seizure do we have benzos / keppra / phenytoin available

Back to the Case:

- The child arrived:
  - A - Maintaining
  - B - Sats 98% on air, equal air entry, no IWOB
  - C - Very shut down and cool peripherally, central CRT 3s, **HR 70-100**, Normotensive. Normal heart sounds
  - D - Paediatric GCS 13. Moving all limbs. Pupils noted to be equal but **sluggish in response to light**
  - E - Apyrexial. Abdomen soft. No rashes. **Fontanelle tense**

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Initial thoughts:

- Probably sepsis secondary to CNS source
- Get IV access, fluid bolus, IV abx and aciclovir

But what else should we be thinking about?

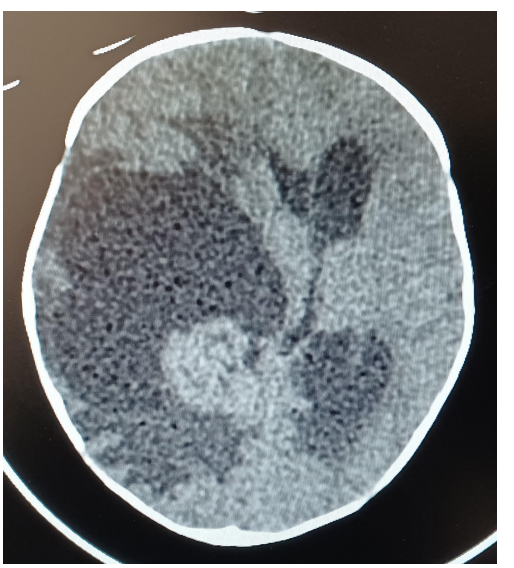
There are 5 main categories to think about in collapsed neonates and babies - the likelihood of each will shift with Hx, examination and age of the baby. But we should consider:

- Sepsis
- Cardiac - duct dependent lesions in little babies!
- Metabolic
- Surgical
- Trauma - non accidental injury in babies (sadly we have to at least think about this in every case)

And as this case will show a 6th category of Intracranial causes (bleed / tumour)

Back to the Case:

- Unfortunately we struggled for IV access so could not give a fluid bolus
- Abx were given IM - don't forget that this is an option!
- Paeds SpR called, also unable to get access
- So decision made for IO access - A how to guide - remember the local anaesthetic down the IO (and leave it before flushing) in conscious patients.
- Access obtained, IV fluid given, aciclovir given
- Taken to CT which unfortunately showed a large SOL
- Transferred urgently to LGI for neurosurgical intervention
- The longer term outcome for the child is not yet known



My own reflections on the case:

- **Overall we did a good job for this child - the nursing support was exceptional and the parents were well supported and updated throughout**
- **The child received abx in a timely manner, diagnosis achieved and transfer within a few hours**
- **My only consideration was should IO have been attempted earlier? It took about 1 hour and multiple attempts to get access. The child had a reassuringly normal gas but we probably should have cracked on and done it sooner!**