SIMulatED RDH Emergency Department - Author: Anna Lithgow/Becky Day

# Scenario Run Sheet: Sick Neonate\_Coarctation 9 Days old

## Learning Objectives

**Target Group: ED Regs and Nurses**

**General:**

CRM Principles

**Scenario Specific:**

* Recognise a neonate with collapse may have congenital heart disease
* Consider differential diagnosis for infant with systemic hypotension and collapse-
  + Left-sided obstructive lesions, (such as hypoplastic Left heart, critical AS, severe coarctation, interuption of aortic arch); other- cardiomyopathy, sepsis, meningitis, hypoglycaemia metabolic, NAI etc
* If unsure treat for multiple causes concomitantly e.g abx in possible cardiac baby
* Consider the need for prostaglandin infusion to keep open duct
  + Recognise that not kept in ED and need to request

## Scenario Overview

**Brief Summary:**

Born by LSCS following uncomplicated pregnancy. Discharged home after 2 days. Baby reported to be doing "quite well" until day 8, when mother noted fast breathing with chest retraction and that baby was more pale and lethargic. Increasingly lethargic over last 24 hrs, now very pale and not feeding well. GP thinks they can hear a murmur.

|  |  |  |  |
| --- | --- | --- | --- |
| Intro Time | Scenario Time | Debrief Time | Soundbite |
| 1 min | 20-25min | 20 mins | 10 mins |

## Observers’ Engagement Task

List the differentials that you are considering during this SIMulation

## Equipment Checklist

|  |  |
| --- | --- |
| **Patient** | Baby Hal/other paed mannequin |
| **Monitoring:** | ISIM |
| **Docs and Forms** | Paed chart, SEPSIS protocol |
| **Other Equipment** | Paed resus trolley, pads, intubation and cannulation, resuscitaire |
| **Consumables** | IV giving set, 50ml syringes for fluids, |
| **Medications** | Prostaglandid, ampicillin, gent, ceftriaxone, cefotaxime, ben pen, gent, (cone abx as distractors) adrenaline, NAd, 10% dextrose |

|  |  |
| --- | --- |
| **Sim Props** | CXR/ABG/ECG as above |

## Participants

**Staff: 3 ED REgs and 3 Nurses**

**Instructor Roles: Provide Ix and Exam findings**

**Confederates: Mother**

**HISTORY FROM MUM**

**- LSCS, Term, 3.7kg**

**- Discharged day 2**

**- Now 9 days old**

**- Feeding well till yesterday**

**- More lethargic and sweaty when feeding**

**- Now less responsive and irritable**

**- No obvious focus of infection that mum has noticed**

**- GP heard a murmur today and sent to ED**

**- No fevers but maybe he was hot yesterday**

**- Nappies still ok for urine and faeces**

**- No ill contacts/travel/FH/genetic condition**

## Additional Information/Medical History

**Demographics: Causcasian, 2nd baby**

**PMH: Nil**

**HPC: Term, CSection**

## Proposed Scenario Progression

Focussed Hx and concomitant examination of child

Key exam findings - Pre and post ductal sats, BP in arms and legs, femorals and murmurs, cyanosis, icteric, mottled, reduced skin turgor, BSL, focus of infection

Key Ix – CXR -Cardiomegaly with increased pulm vasc lung markings, ECG – SR with bivent hypertrophy, ABG – pH 7.3, CO2 68, HCO3 15

Voice the concerns – sepsis vs cardiac vs metabolic vs intracranial etc

Consider a judicious fluid bolus 10mls/kg, abx

Call paed cardio (Bo) and consider prostin – not expected to know how much/how fast but that need to consider and discuss with cardiology

(PGE-2 0.05-0.15mcg/kg/min)

Consideration of diuretics and inotropes with support of paeds/cardiology/ICU

Recognition that child will need intubation when on high dose prostaglandin due to apnoea risk

* Ensure that the right expertise available to safely intubate the child if needed

Appropriate disposition to NICU/ICU

## Scenario Preparation/Baseline Parameters

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Stage 1 (arrival)** | Progression Trigger | **Stage 2** | Progression Trigger | **Stage 3 (post defib)** |
| **RR** | 70 |  |  |
| **SpO2** | 95% pre ductal  85% post ductal | Sats remain same despite O2 |  |
| **HR/Rhythm** | 150 |  |  |
| **BP** | 80/45 arms  50/30 legs |  |  |
| **T** | 37.2 |  |  |
| **Other** | Reduced fem pulses |  |  |
|  |  |  |  |

## Debriefing/Guided Reflection Overview

|  |  |
| --- | --- |
| **Opening Gambit** | **Anticipated themes:**  It isn’t easy to tell the difference between causes of collapse in a neonate – need to keep an open mind and sometimes treat for more than one differential e.g. sepsis and cardiac |
| **Exploration with key players** | What differentials broadly do you consider in the setting of a collapsed neonate?  What did you examine for/what might you examine for in the future to rule in or our the  What was going through your mind when you heard there was a murmur? |
| **Engaging the general group** | What do you have on your differential list? Was there anything the team didn’t consider that you were concerned about? |
| **Sharing facilitator’s thoughts** |  |
| **Any other questions or issues to discuss?** | Prostin not available in ED – need to request  Its ok to treat for sepsis and cardiac together if unsure i.e. give abx  Not so much about the exact cardiac lesion but recongising that a collapsed neonate with a murmur needs prostin  Side effects of prostin?  How can you tell the difference between respiratory and cardiac – sats not improving with O2 in cardiac lesions  Who to get help from e.g Paeds/Bo |
| **Summary** |  |

## The Soundbite

General Feedback Prompts/Examples:

Opening Gambit:

* What did you feel were your specific challenges there?
* Let’s talk.
* Can you describe to me what was happening to the patient during that scenario?
* Can you describe to me what was going on?
* What was important to you in choosing to manage that situation?
* Can you tell me what your plan was and to what extent that went according to plan?
* That seemed to me to go smoothly, what was your impression?
* That looked pretty tough. Shall we see if we can work out together what was going on there so that you can find a way to avoid that situation in the future?

Exploration with key players

* Questions to deepen thinking
* Questions to widen conversation
* Introduce new concepts; challenge perceptions; listen and build
* So what you’re saying is…
* Can you expand on…
* Can you explain what you meant by…
* When you said…
* I noticed that you…

Engaging the general group

* Let’s check with the rest of the group how they reacted to you saying that.
* Did you [scenario participants/observers] feel the same?
* What did you [scenario participants/observers] want from [scenario participant] at that point?
* What ideas or suggestions has anyone else got for how to deal with that situation?

Sharing facilitator’s thoughts

* Use advocacy with inquiry to share your observations and explore their perception
* What does the protocol say on…..
* What do you think was happening ….?
* How do you think … would respond to…. ?
* What about next time…..?
* Do you think there’s anything to be gained from…?

Any other questions or issues to discuss?