paediatric WATCH

Lessons from the frontline

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SEPSIS KILLS: Time is Life…

A 2 month old infant presented to an emergency department after waking from her morning sleep disinterested in feeding, and looking pale. The infant was assessed at triage and noted to be tachycardic 200 beats/min (Red Zone), febrile 38.6 °C (Yellow Zone) and was allocated a triage category 2.

Treatment commenced as per a local guideline for the *Management of the Febrile Infant,* which included a full septic workup. An in-out catheter result was suggestive of a urinary tract infection. There were multiple unsuccessful attempts at obtaining IV access and a capillary blood gas sample revealed pH 7.29 and lactate 3.2mmol/L, which was attributed to the squeezing technique used to collect the sample.

The first set of observations documented just under 2 hours from arrival included respiratory rate 58, mild respiratory distress (Blue Zone), heart rate 172, and a capillary refill time ≥3 sec (Yellow Zones), and Glasgow Coma Score (GCS) of 9 using the modified paediatric GCS scale.

At this point it was decided to proceed with a lumbar puncture (LP) and an IV cannula was inserted following more than 12 attempts.

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A venous blood gas sample revealed a worsening pH 6.83 and lactate 10.4mmol/L. IV antibiotics were administered just over 3 hours from triage.

Thirty minutes later, the infant deteriorated requiring intubation and ventilation and was transferred to a paediatric intensive care unit. The infant further deteriorated and died as a result of an overwhelming sepsis.

Investigation:

The reviewers found there was some confusion over which guide to use in the management of this infant. The Clinical Excellence Commission's (CEC) Paediatric Sepsis Pathway focusses on early administration of antibiotics for patients with possible sepsis (within one hour), whereas the local guideline focused on a full septic screen including LP and CSF results to guide antibiotic choice which can delay treatment.

It was identified that the team may have lost situational awareness and became focused on the task of cannulation resulting in the failure to fully recognise signs of deterioration.

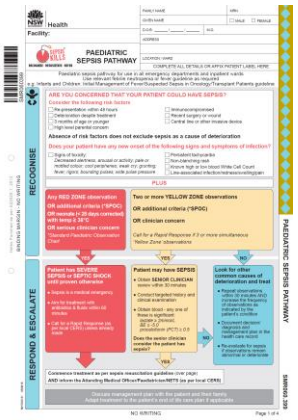
Lessons learnt:

Patients with Red or Yellow Zone observations must be escalated as per local Clinical Emergency Response System (CERS). This would have resulted in a senior clinician being involved.

The Paediatric Sepsis Pathway promotes the involvement of a senior clinician to support early decision making and administration of life saving antibiotics and intravenous fluids. The pathway also includes alternative options for antibiotic administration (intramuscular or intraosseous routes) where IV access is difficult.

Delays in obtaining IV access and a LP led to delays in administering potentially lifesaving antibiotics. It is sometimes possible to become distracted by a procedure and lose focus on the patient - in this case clinicians were focused on a task which led to a failure in recognising the signs of deterioration.

There was also a missed opportunity to identify the raised lactate value as a sign of potential sepsis. The Paediatric Sepsis Pathway recognises a lactate ≥ 2mmol/L as a significant value in the early identification of sepsis.



Want to learn more? Please visit the following websites:

CEC Sepsis Kills paediatric resources

Royal College of Paediatrics and Child Health- Situational Awareness for Everyone (S.A.F.E) programme