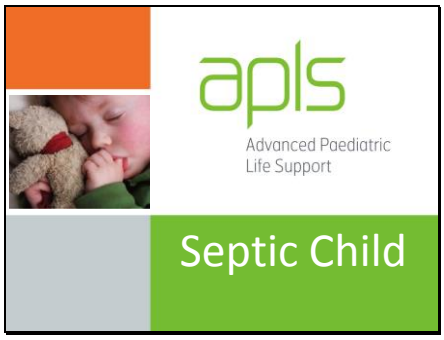
,Slide 1



Please read notes under the slides

For use with APLS ANZ 5e manual, March 2013 & pre-course online learning modules

There are 4 clinical cases to support discussion in this workshop.

Case No. Case Aims

- Bacterial vs viral meningitis & use of lumbar puncture
- Management of shock associated with septicaemia
- Possibility of meningococal /NAI
- Other conditions mimicking sepsis: duct dependent CHD

If time is limited, please choose either case 3 or 4 depending on candidate's experience

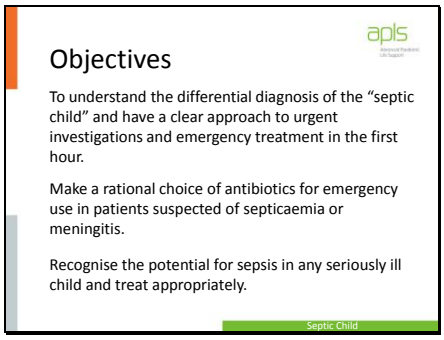
Materials Required

Equipment

Overhead projector

Screen

Slide 2

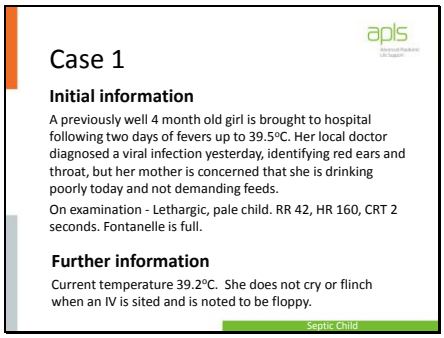


Be aware that this session is to discuss principles and initial management. Be prepared to discuss additional therapies often required for the septic child, including special blood factors, inotropes, IVIG, etc. **Use the expertise and experience withing the group.**

Supporting material slides

- Bacterial pathogens in meningitis (slide 4)
- Bacterial meningitis treatment (slide 5)
- Bacterial pathogens in septic shock: 3 months to 5 years/over 5 years (slide 7)
- Bacterial pathogens in septic shock: neonates (slide 10)

Slide 3



Initial Information

Comment on the examination findings- cause of tachycardia due to fever or early shock? Importance of maternal concern. Non-specific findings common in febrile illnesses.

Further Information

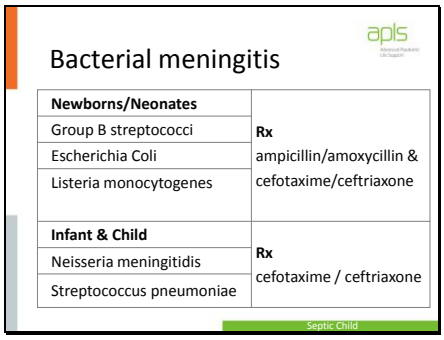
Meningitis a likely diagnosis. The depressed conscious level is a contraindication to lumbar puncture. How should treatment proceed? Discuss likely organisms and the importance of the immunisation state of the child (partial in this child as she is under 6 months) in determining the likelihood of bacterial vs viral cause of fever.

Instructor Information

Diagnosis:

Bacterial meningitis.

Slide 4

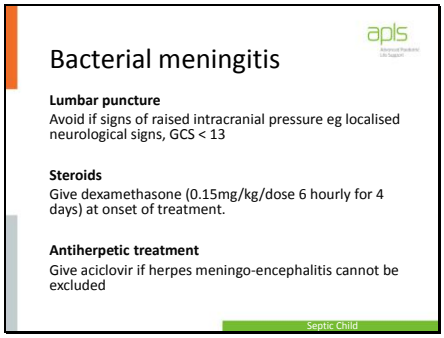


Remember potential resistance issues, particularly with pneumococcus (many would add vancomycin until sensitivities known)

Steroids and antivirals discussed next slide

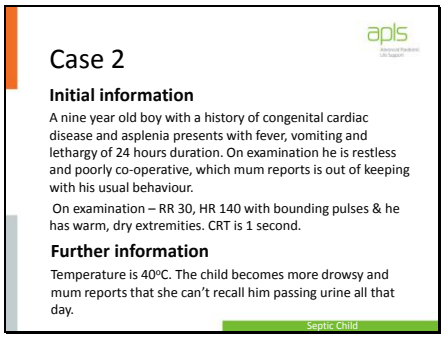
If time allows consider asking what tests should be done on CSF (if safe to collect): discuss modern non-culture methods

Slide 5



Unlikely, but if time allows, discuss signs of raised intracranial pressure and its management

Slide 6



Initial information

The child is in shock. Discuss initial treatment of shock. Sepsis is likely: discuss antibiotics to be given after blood culture.

Further information

Severe septic shock is likely. Causative organisms are more likely to be gram positive encapsulated bacteria such as Streptococcus Pneumoniae, Haemophilus Influenzae type B or Nisseria Meningitides due to the asplenia. Anticipate severe shock. Consider the lab tests to be requested- include clotting studies.

Instructor information

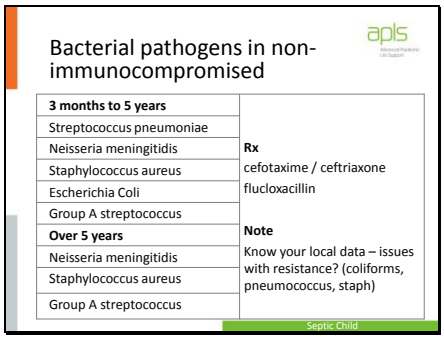
Diagnosis:

Warm septic shock due to Streptococcus Pneumoniae septicaemia

Discuss antibiotic choices, which vary amongst units. Often use 3rd generation cephalosporin plus additional staphylococcal cover (flucloxacillin). Some units consider vancomycin if concerns re resistance. Use the expertise and experience of the group.

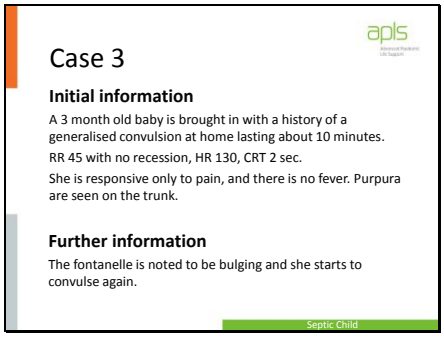
If time allows discuss asplenia.

Slide 7



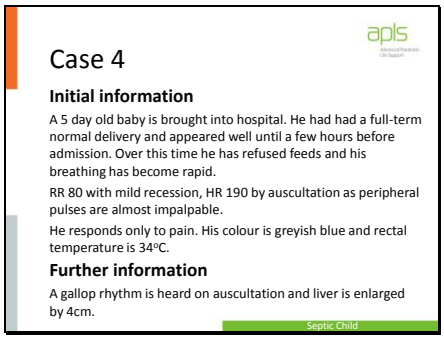
Be prepared to discuss resistance in organisms, which varies widely. May need to introduce idea of using bigger doses or additional antimicrobials such as vancomycin. Emphasise discussion with local ID team

Slide 8



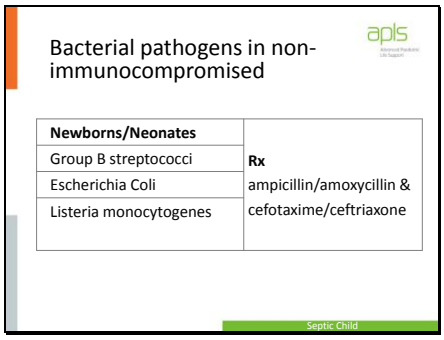
Initial Information
ABC are satisfactory – it is the conscious level that attracts concern. Discuss purpura and initial treatment.
Further Information
Convulsion control. Treat for possible meningitis. CT scan.
Instructor Information
Differential has to include sepsis, so act accordingly. Purpuric rash should open dialogue re meningococcal infection. However differential diagnosis always important
What is unusual for infection here? (age, lack of fever, normal CRT). Final diagnosis = "Shaken baby" syndrome, intracerebral bleeding on CT, multiple old fractures

Slide 9



Initial Information
Seriously ill baby. Needs intubation, ventilation and bolus of fluid into circulation. Sepsis possible: blood culture and antibiotics.
Further Information
Duct dependent congenital heart disease likely. Infusion of prostaglandin E1.
Instructor Information
Diagnosis:
Duct dependent coarctation of aorta.

Slide 10



Even though prev case not infective, opportunity here to discuss different approach to neonatal sepsis. Stress importance of group B and Listeria. If using 3rd gen cephalosporins (as some units do empirically) emphasise addition of amoxycillin/ampillin to cover Listeria. Some candidates may wish to discuss benzylpenicillin as an alternative (commonly used in UK)

Slide 11

Slide 12