How to Interpret a Paediatric Blood Culture


Diagnostic Stewardship

Diagnostic stewardship means testing the right patients for the right reasons. If you don’t suspect a Blood Stream Infection (BSI), don’t send a BC.

Consider:
- Presentation and illness severity
- Probable source of infection
- Past medical history
- BSI risk factors

Pre-test Probability

Blood Culture Volume is Key

| Suggested Minimum BC Volumes |  
|-----------------------------|------|
| <1 kg                       | <0.5ml |  
| <5 kg                       | 0.5 – 1ml |
| <1 year                     | 1ml   |
| 2 – 5 years                 | 2 – 5 ml |
| 5 – 10 years                | 5 – 15ml |

Antibiotics

Consider stopping antibiotics at 24-36 hours if BC negative-to-date and low suspicion of BSI.

Negative Blood Culture

Negative BC doesn’t always exclude BSI, especially if a small inoculum was obtained. In any child with high pre-test probability and negative BC to date, consider repeat BC and review antibiotic treatment.

Holistic Approach

Adopt a holistic approach when interpreting the significance of a positive culture - does this fit with the clinical picture; is this bug a common pathogen or possible contaminant? Liaise with Microbiology colleagues for advice.

Persistent Positivity

When the same bug is repeatedly isolated, thorough daily clinical re-evaluation & early liaison with Infectious Diseases is warranted. There must be active attempts for source identification and concerted efforts to achieve source control.