Conclusion CRP has good specificity (96% at 1 mg/L) for CA in preterm infants. Higher initial CRP levels in infants correlate with severity of histological CA.

PO-0565 TURN-AROUND-TIMES FOR PATHOGEN IDENTIFICATION AND ANTIBIOTIC SUSCEPTIBILITY TESTING IN INFANTS WITH EARLY-ONSET BACTERIAL SEPSIS
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We characterised the turn-around-times for pathogen identification with antibiotic susceptibility, and outcomes in newborn infants with early-onset bacterial sepsis (EOS).

Methods Eighty infants with EOS were retrospectively reviewed. EOS was defined by isolation of a pathogen from blood culture drawn within 72 h of birth and antibiotic treatment for ≥5 days.

Results Thirty-seven of the 80 infants were deemed to have true EOS, and 43 were deemed contaminants. The organisms grown in true EOS cases were: E. Coli in 16, Group B Strepococcus in 10, Alpha hemolytic Streptococci in 6, and others in 5.

The median (25%-75% IQR) time noted from blood culture positivity to identification of the organisms with susceptibility testing was almost 4 times longer compared to the time from collection of blood culture specimens to blood culture positivity (79 h, IQR 52 h–101 h, versus 19 h, IQR 16 h–21 h, p < 0.0001) in true cases of EOS. The contaminants took longer to identify compared to true cases (p < 0.05).

Four infants died of gram negative sepsis. Two of these infants with ampicillin resistant E. Coli died from delayed implementation of appropriate organism-specific antibiotic treatment as the susceptibility results took too long to become available.

Conclusions Definitive identification of the pathogen with the currently used laboratory methods take too long affecting outcome of infants with EOS. Empiric antibiotics were continued too long unnecessarily because of delayed identification of the contaminants. Rapid identification of an organism to a species level utilising newer technologies needs to be developed.

PO-0566 PLATELETS AS THE OPSONINS THAT PROMOTES INGESTION OF MICROBES DURING NEONATAL SEPSIS
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Background and aims Complement and IgG are humoral opsonins. We theorised platelets might be opsonins in neonates. We proposed that persistent neonatal bloodstream infections and thrombocytopenia might provide proof of the concept if there was high rather than low mean platelet volumes [MPVs] during infections (i.e., platelets consumed during phagocytosis).

Methods From 2008 to 2013, all neonates who had positive blood cultures underwent a record review. Infants were included if they had ≥ 2 positive blood cultures and had platelet counts < 105 per mm3. Exclusion criteria were necrotizing enterocolitis, coagulopathy, organ or catheter-related thrombosis or endocarditis.

Results Among 77 positive blood cultures, two methicillin-resistant Staphylococcus aureus [MRSA] and two Candida bloodstream infections persisted and had thrombocytopenia. The four infants had initial elevated MPVs that declined to normal only when the resolution of infection. Blood smears had no aggregates of platelet, microbes and phagocytes. One MRSA and two Candida infections with associated thrombocytopenia occurred in extremely preterm infants; they had no elevation in MPVs and expired quickly. A review of all 77 infants with late-onset sepsis revealed the infecting microbe and extreme prematurity modulated the kinetics of MPVs during infection.

Conclusions Two pathogens that likely resisted opsonization with complement and IgG were associated with continuing neonatal sepsis and thrombocytopenia. High MPVs suggests defective platelet production was not responsible for thrombocytopenia, but macrophages and neutrophils likely removed platelet-microbe-aggregates from the blood. These findings offer indirect proof that platelets may act as opsonins during neonatal phagocytosis.