691. Concurrent Serious Bacterial Infections in Febrile Infants Less Than 90 Days Old
Lauren Maldonado BA1; Heidi Morris, MD2; 1Medical Education, Keck School of Medicine of USC, Los Angeles, California; 2Hospitalist Medicine, Children’s Hospital Los Angeles, Los Angeles, California

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Background. Serious bacterial infections (SBI) in febrile infants can lead to significant morbidity and mortality. Due to an infant’s poor ability to localize infection, physical exam findings alone are often inadequate to determine which infants <90 days old should undergo a full septic workup. Several protocols exist in the literature but none are universally accepted. Many use different cutoff values for determining risk severity, making it difficult to predict the ideal workup for each patient. This study aims to improve SBI management by providing associated patient characteristics that increase risk for concurrent SBI.

Methods. We performed a retrospective cohort study at a tertiary care, freestanding academic children’s hospital in an urban setting. Infants <90 days old admitted between July 2004 and 2013 from our ED, with a documented cerebrospinal fluid (CSF) culture (N = 4045) were included in the study. Patients excluded were those with a documented rectal temp ≥38.0 C or history of tactile fever, discharged home from the ED, <30 weeks gestational age, prior sepsis rule out, congenital anomalies, transfer to/from an outside hospital (OSH) or admitted for other serious illness.

Results. A total of 1326 febrile infants <90 days old were included. Total SBI included the following: UTI N = 254 (19.2%), bacteremia N = 41 (3.1%), bacterial meningitis N = 22 (1.7%). Concurrent infections included the following: N = 11 (42.3%) of those had meningitis and bacteremia, N = 12 (46.2%) had bacteremia and UTI, N = 2 (7.7%) had meningitis and UTI and N = 1 (3.8%) patient had all three SBI. The odds of having concurrent meningitis in a patient with bacteremia were 50 times higher than in a patient without bacteremia (OR 50.8, CI 20.4–126.8, p < 0.001). Patients ≥29–90 days old had 1.6 times higher odds of having a UTI than younger patients (OR 1.55, CI 1.17–2.0, p = 0.02).

Conclusion. Febrile infants <90 days old with bacteremia have a significantly higher incidence of concurrent meningitis than those without. Therefore, it is pivotal to consider lumbar puncture in those patients who failed to have one upon initial evaluation. Our next step is to apply a more sophisticated small-sample statistical approach to develop a predictive model for determining appropriate management in febrile infants without an initial lumbar puncture.

Disclosures. All authors: No reported disclosures.