

PEDIATRIC HAND INFECTIONS: A LARGE SINGLE-CENTER EXPERIENCE

Sarth Raj¹, Amjed Abu-Ghname², Joseph P. Lopez², John C. Koshy²

¹ Baylor College of Medicine, Department of Surgery, Plastic Surgery

² Texas Children's Hospital, Surgery, Plastic Surgery

Background: The hand holds vital importance in everyday function and normal development, so optimal care of pediatric hand infections is necessary to prevent future comorbidity in children. Crucial aspects of the diagnosis and management of pediatric hand infections are distinct from that of adult cases, though much of current treatment is generalized from adult care. To bridge the knowledge gap between care of children and adults, we aim to characterize patients with pediatric hand infections in terms of their demographics, etiology, treatment, and post-interventional course.

Materials/Methods: A retrospective chart review was conducted from April 2012 to May 2019 on all Texas Children's Hospital patients aged 0-18 years. Patients with diagnoses of hand infections were included in our study. Patient clinical and demographic information was collected and analyzed.

Results: A total of 57 patients were included in our study. Mean age of diagnosis was 7.3 years, and the majority were males (56%). Accidental trauma preceded infection in 27 patients (47%), with cultures growing *Staphylococcus aureus* in 33 patients (58%). For 16 patients (28%), no causative organism could be definitively isolated. Abscess was the most common type of presenting infection, found in 24 patients (42%), although cases of cellulitis, felon, paronychia, flexor tenosynovitis, collar button abscess, and osteomyelitis were also identified. Twenty-nine patients (51%) had soft tissue swelling on radiological imaging before treatment and osteomyelitis-associated changes were seen in 11 patients (19%). All patients were admitted to the hospital and underwent at least one irrigation and debridement, with an average length-of-stay of 4.5 days. 17 patients were treated postoperatively with packing (30%), 12 patients (21%) with draining, and 7 patients (12%) with both. Postoperative course was complicated by osteomyelitis in 8 patients (14%). Forty-six patients (81%) underwent complete remission and suffered no complications.

Conclusions: This study is the first in the literature to examine pediatric hand infections in a large cohort and highlights their demographics, types of infection, causative organisms, and treatment course. Pathogenesis of pediatric hand infection has more variety than adults, and so a thorough history-taking from both the patient and caregiver is required. Irrigation and debridement is the current foundation of treatment, though its extent and subsequent pharmacological care is case-dependent and depends on degree of infection.