Abstract

Introduction: Pediatric Deep Neck Space infections remain an important condition as it may potentially lead to life-threatening complications, this is especially so when there is a delay in diagnosis and treatment. The increasing isolation of community-acquired Methicillin-Resistant Staphylococcal Aureus (MRSA) in Paediatrics head and neck abscesses has been a major focus of the current literature. Management of Pediatric deep neck space abscesses involves high dose intravenous antibiotics and surgical drainage of abscess. In this study we share our experience of pediatric deep neck space abscesses in terms of location of abscesses, clinical features, bacteriology and management.

Material and Methods: This prospective study was done in India in the Department of Ear, Nose and Throat and Head and Neck Surgery of Sheri-Kashmir Institute of Medical Sciences Medical College, which is a tertiary care hospital for a period of two years from September 2009 to September 2011 in One hundred Pediatric patients up to 15 years of age. Patients with Contrast Enhanced Computed Tomography (CECT) evidence of the abscess and clinical signs and symptoms of deep neck space abscess were enrolled in the study. All patients who had CECT evidence of abscess but which failed to show presence of abscess at the time of aspiration/incision and drainage were excluded from the study. Abscesses were divided into small and large abscesses on the basis of maximum diameter of cavity wall. Abscesses with maximum diameter in any axis less than 1.5 cm were labelled as small and diameter greater than 1.5cm were labeled as large. The locations of the abscesses were determined based on radiographic and surgical findings. Before any definitive intervention was done about 0.2ml of pus was aspirated under sterile conditions and sent for culture and sensitivity. Observational data were collected regarding clinical characteristics; bacteriology and management of patients. All patients were started on empirical antibiotic therapy of Clindamycin and ceftriaxone. Patients with small abscesses were blindly aspirated while Incision and drainage was done for large abscesses. Patients with associated complications underwent incision and drainage irrespective of the size of abscess. Patients with small abscesses who failed empirical antibiotic therapy and aspiration then underwent Incision and drainage after 48 hour.

Results: Eighty two patients were male. Most patients were between the ages of 4-6 years. The most common symptom was swelling in the neck (85%), followed by pain in neck (78%). The most common site of abscess was Submental (25%) followed by Parapharyngeal (18%) and submandibular (16%). Source of infectious spread was unknown in about (40) patients while (23) had a history of upper airway infection and. (10) had dental infections twelve patients presented with complications. The most common complication was airway obstruction seen in 5 patients followed by sepsis and mediastinitis in 2 patients. Majority of abscesses were large (67 patients) while 33 abscesses were small. Twelve patients presenting with complications were managed by Incision and drainage and empirical therapy. Patients without complications (88) were managed by two different procedures. Thirty patients with small abscesses underwent. Needle aspiration followed by empirical therapy. Only 6 of those responded while 24 failed to respond which were ultimately treated with incision and drainage. Success rate with blind aspiration was only 20%. Fifty eight patients with large abscesses underwent Incision and Drainage. Cultures were positive only in 82 patients. Pus on culture and sensitivity revealed MRSA as the most common single bacteria present in 34 patients followed by Klebsiella pneumonia in 20 patients and staph aureus in 12 patients. Twenty patients had polymicrobial cultures. MRSA in our study was sensitive to clindamycin, gentamycin, vancomycin,

Conclusion: Pediatric deep neck infections and subsequent formation of abscesses occur despite the advent of antibiotics. These abscesses usually present as fever and neck mass. The cause is unknown in most of the patients followed by upper airway infection (tonsillitis, pharyngitis) and odontogenic infection. These infections are polymicrobial in good number of cases while most commonly caused by MRSA and klebsiella. Our data support the notion that MRSA infections are on the rise and due consideration should be given to it when approaching a pediatric patient with a headand neck abscess. Cultures are critical to determine the organism and its possible resistance patterns. Empirical antibiotics should cover gram positives especially MRSA, gram negatives and anaerobes .The choice of empirical antibiotic depends on the local sensitivity pattern .We in our set up start with clindamycin and ceftriaxone, this regimen covers Gram positives, negatives and anaerobes .Antibiotics should be modified once culture results are available. Once abscess is suspected by CECT and clinical findings we believe it should be drained by proper surgical procedure.