ORIGINAL RESEARCH PAPER

ENT

KEY WORDS: Deep neck infections (DNI), deep fascial space, signs, symptoms, cervical adenitis

EVALUATION OF MICROORGANISMS IN PAEDIATRIC AGE GROUP WITH DEEP SPACE NECK ABSCESSES

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ABSTRACT

Deep neck infections (DNI) are infectious processes of the deep fascial space in the head and neck area. Deep neck lymphadenitis is associated with a variety of pharyngeal, dental, skin, or other head and neck infections. Cervical adenitis is commonly the source of pediatric DNIs. Microorganisms penetrate the mucosal surfaces of the respiratory track and are cleared via lymphatic vessels to regional lymph nodes.

INTRODUCTION:

Deep neck lymphadenitis is associated with a variety of pharyngeal, dental, skin, or other head and neck infections. Cervical adenitis is commonly the source of pediatric DNIs. Microorganisms penetrate the mucosal surfaces of the respiratory track and are cleared via lymphatic vessels to regional lymph nodes. In lymph nodes, as a response to invasion of bacterial pathogens, T-cell proliferation leads to node enlargement and neutrophil recruitment which in turn leads to a suppurative lymph node. Suppurative lymphadenitis may progress to abscess formation as the host defenses attempt to prevent the infection from spreading. Although most cervical lymphadenopathy in pediatric patients is viral in etiology, suppuration of an inflammed lymph node is suggestive of a bacterial infection. Among the most common pathogens in DNIs are group A streptococcus and other streptococci, S. aureus or anaerobes.

Observation:

Among 6 patients, culture was sterile. Gram positive microorganisms were the most common in our patients (58.5%) followed by Gram negatives (36.2%), and anaerobes (22.3%). Among Gram positive bacteria, MRSA was the most common (n=29) followed by *S. aureus*(n=12), and *S. pyogenes* (n=9). Among Gram negative bacteria, *K. pneumoniae* was the most common (n=20) followed by *E. coli* (n=10), *Salmonella enteritis* (n=3) and *H. influenza* (n=1). Acinetobacter were the most common anaerobes (n=10). Sixteen patients had more than one microorganism involved.

DISCUSSION:

Gram positive microorganisms were the most common in our patients (58.5%) followed by Gram negatives (36.2%), and anaerobes (22.3%). Among Gram positive bacteria, MRSA was the most common (n=29) followed by *S. aureus* (n=12), and *S. pyogenes* (n=9). Among Gram negative bacteria, *K. pneumoniae* was the most common (n=20) followed by *E. coli* (n=10), *Salmonella enteritis* (n=3) and *H. influenza* (n=1). Acinetobacter were the most common anaerobes (n=10).

Sixteen patients had more than one microorganism involved. Among 6 patients, culture was sterile. In a study by Ungkanont et al on 117 children treated for head and neck space infections beta haemolytic streptococci (18%) and staph aureus (18%) were most prevalent. In their study, culture was sterile for 7 patients. Another study by Baldassari et al found that mixed anaerobic bacteria (n = 37) were the most frequently cultured organism in their study followed by *S. aureus*.

Summary: Among 6 patients, culture was sterile. Gram positive microorganisms were the most common in our patients (58.5%) followed by Gram negatives (36.2%), and anaerobes (22.3%). Sixteen patients had more than one microorganism involved.

REFERENCES:

1. Baldassari CM, Howell R, Amorn M, Budacki R, Choi S, Pena M. Complications in Pediatric Deep Neck Space Abscesses. Otolaryngology–Head and Neck Surgery. 2011;144:592-5
2. Ungkanont K, Yellon RF, Weissman JL, Casselbrant ML, González-Valdepeña H, Bluestone CD. Head and neck space infections in infants and children. Otolaryngol Head Neck Surg. 1995;112:375-82.