"CLINICOMICROBIOLOGICAL CORRELATIONS AND ANTIBIOTIC SENSITIVITY OF ORGANISMS IN ODONTOGENIC SPACE INFECTION WITH SPECIAL REFERENCE TO ANAEROBES"

by

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ABSTRACT

INTRODUCTION:

Odontogenic infection causing swelling of one or more deep fascial spaces of head and neck can be potentially life threatening due to airway compromise. The underlying microflora causing such life threatening infection are typically polymicrobial, predominantly involving strictly anaerobic gram positive cocci and gram negative bacilli with facultative and microaerophilic streptococci.

This study is –

1. To evaluate the clinical parameters with microbiological characteristics in space infection of odontogenic origin.
2. To document the pathogenic potential and number of virulence factors in anaerobic bacteria as well as its synergistic interrelations with other members of infectious flora.
3. To select appropriate antimicrobial therapy and empirical antibiotic regime for treatment of orofacial infections, mainly because of the frequency of β-lactamase production by anaerobic gram-negative rods.

MATERIALS AND METHODS:

Cases of acute dentoalveolar abscess with space infections reporting to the Craniofacial and Research Centre, S.D.M.C.D.S Dharwad from April 2009 - May 2010 will be analyzed.

Method includes

a) Collection of 2 separate samples of aspirated purulent material in air tight syringes
b) Smear examination using Gram staining method & inoculation in Culture media.
c) Standard methodology for identification of aerobic & anaerobic pathogens with their colony morphology.

d) Antibiotic sensitivity test by Kirby Bauer (Disk diffusion) method.

RESULTS:

Of the 50 patients with ,abscess only 20 was not on any previous antibiotic therapy, 30 patients were under antibiotic therapy prior to admitting this unit. Age group ranged from 30-48 yrs (mean age group 38 yrs). 12 patients were diabetic. Most common source of odontogenic space infection were Mandibular molars . Submandibular and buccal space is commonly involved (76%) followed by submassetric (19%) and submental space(7%). Caries (66%) is most common etiological factor with severity score 3 being predominant in our study. Temperature was recorded range of 99.9-103 ^{0}f with WBC count of 12,000-14,500 cell/cumm. 60 bacterial strains were isolated. staphylococcus aureus was the first common organism in 14 cases (28%) in both groups.*streptococcus viridans* in 7 cases(14%) was the second most common organism in preadmission antibiotic therapy whereas peptostreptococcus spp in 7 cases (14%) was the third most common organism isolated in patients not under antibiotic therapy. The length of hospital stay of average 2-5days. The empirical antibiotic regimen follow is Amoxicillin plus Clavulanic acid in combination with Metronidazole. Surgical treatment was incision & drainage of abscess and extraction of the offending teeth.

CONCLUSION:

Anaerobic bacteria remain an important cause of bloodstream infections at all age groups and are often missed. Most are due to Gram-negative bacilli Peptostreptococcus species ,Bacteriodes which are polymicrobial infections. In our study early recognition and the institution of medical and surgical therapy played significant role in securing recovery and preventing complications.