The Microbiology of Chronic Rhinosinusitis Prior to Functional Endoscopic Sinus Surgery

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Abstract:
Chronic rhinosinusitis is a common disease which causes persisting inflammatory conditions of one or more sinuses. Bacteria, viruses and fungi are thought to play important roles in this disorder. Anti-microbial therapy is a key element in the management of chronic rhinosinusitis, which is based in a large part on previous studies. This study was designed to characterize the microbiology of chronic rhinosinusitis in patients referred to Hamadan’s central hospital (Besat). Sixty-four patients diagnosed with chronic rhinosinusitis undergoing functional endoscopic sinus surgery (FESS) were enrolled in this study. Samples for bacterial culture testing were taken from the ethmoid cavity before FESS with a sterile swab via the rigid zero degree endoscope. The male-to-female ratio was 72:28 and the age ranges were 18-61 years (33.56±1.31). Of the 64 culture specimens, 5 (7.8%) demonstrated no growth. Descriptive analysis of cultures showed that the most prevalent bacteria were Staphylococcus aureus and Escherichia coli. Chronic rhinosinusitis appears to be a poly-microbial infection with the potential for involvement with a wide range of bacteria. Empirical therapy based on baseline data may be misleading. Therefore, bacterial specimens from sinuses seem to be beneficial in order to guide optimal antibiotic therapy.

Keyword: FESS; chronic rhinosinusitis; microbial culture, antibiotics