A paradigm for evaluation and management of the maxillary sinus before dental implantation.

Chen YW, Lee FY, Chang PH, et al. Laryngoscope. 2018;128:1261–1267.

Otolaryngologists are frequently consulted for preoperative evaluation of the maxillary sinus prior to dental implantation. Complications including acute and chronic maxillary sinusitis after dental implantation are not infrequent, and the risk of such complications increases in patients with preoperative chronic sinusitis. Cone-beam computed tomography (CBCT) is utilized by dentists for preoperative anatomic evaluation of the alveolar bone and maxillary sinus. The study by Chen et al. aims to determine a paradigm for the management of sinus findings before dental implantation by evaluating preoperative CBCT sinus characteristics and implant-related rhinosinusitis.

This was a prospective study including patients who underwent dental implantation with or without sinus augmentation. All patients underwent craniofacial CBCT and referred to ENT for preoperative maxillary sinus evaluation. Patients were classified into groups 1 to 6 based on CBCT findings: (1) nonspecific findings, (2) solitary polyp or cyst, (3) mucosal thickening, (4) air-fluid level or fluid accumulation, (5) near-total opacification of the maxillary sinus, and (6) calcification spots in the maxillary sinus. Patients in group 3 were treated medically or surgically prior to implantation if a large polyp, cyst, or significant mucosal thickening was present. Groups 4, 5, and 6 were all treated to resolution prior to dental implantation. Intraoperative and postoperative complications were analyzed following dental implantation.

A total of 84 patients who underwent dental implantation were included in the study. Preoperative CBCT findings in patients were grouped as follows: group 1 (46.4% patients), group 2 (22.6%), group 3 (20.2%), group 4 (7.2%), group 5 (1.2%), and group 6 (2.4%). Two patients, in groups 1 and 3, developed postoperative acute sinusitis that resolved with medical therapy. No patients developed chronic rhinosinusitis postoperatively. Six patients belonging to group 1 experienced Schneiderian membrane perforation during sinus lift surgery, one of which required endoscopic sinus surgery followed by full recovery.

The prospective study by Chen et al. has several strengths. The article addresses and provides a management paradigm for a very common problem at the intersection of otolaryngology and oral surgery. The paradigm utilized for evaluating and managing the maxillary sinus preoperatively demonstrated a low complication rate and no cases of chronic rhinosinusitis following dental implantation. The authors demonstrate the importance of the otolaryngologist in the preoperative management of these patients and the advantage of taking the necessary preventative steps to avoid complications, which benefits both the patient and the oral surgeon. Limitations in this study include the low number of patients with significant sinus disease and the lack of control groups based on sinus findings.

Overall, this is an excellent study that provides evidence of a successful paradigm for management of the maxillary sinus before dental implantation. The otolaryngologist certainly has a role in the preoperative and postoperative management of these patients, with preventative diagnosis and treatment of sinus conditions playing a vital role in the reduction of complications.

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