Displacement of Dental Implants into the Maxillary Sinus: A Case Series Study

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ABSTRACT

Objective: Dental implant placement in the posterior maxilla is challenging due to poor bone quality and volume. Displacement of implants into the sinus is a common complication. This study was conducted to evaluate the risk of displacement in relation to various factors.

Materials and Methods: A retrospective observational study was conducted on 21 patients with 22 implants accidentally displaced into the maxillary sinus during a period of three years (November 2017-October 2002) The following data are collected: patient information, medical condition and smoking habit, geometry and size of the implant and anatomical region of displacement, time of displacement and removal after placement, available bone height and the associated sinus lift procedure. The surgical technique and type of anaesthesia for implant removal were also recorded.

Results: The mean age of patients was 43±9 years with male to female ratio of 2:1. About 67% of patients were smokers and score II ASA (American Society of Anaesthesia). More than half of patients had oroantral communication and 1/4th had sinusitis. Most implants were in the first molar region (68%) followed by the second molar (18%). The displaced implants accompanied by closed sinus lift were 82%, in addition, 82% of cases dislodged intraoperatively. The height and diameter of implants were 8-10 mm (59%) and 4-5 mm (73%) respectively, 82% were tapered and 64% were associated with 2-4 mm of residual bone height.

Conclusion and Recommendation: Dental implant displacement into the maxillary sinus should be expected when placing implant in the posterior maxilla with deficient bone volume and poor quality. The patient should be informed of this complication in the informed consent.

Keywords: Caldwell-Luc, Dental implant, Displacement, Maxillary sinus, Sinus lift

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