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**Qualitative analysis of the oral microbiota during intermaxillary fixation in patients undergoing orthognathic surgery**

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**Purpose:** Qualitative evaluation of the oral microbiota in patients undergoing orthognathic surgery with subsequent application of intermaxillary block, in order to investigate a possible increase in the concentration of periodontal bacteria.

**Materials and Methods:** A systematic review of the literature was performed using the PubMed search engine. The keywords "orthognathic surgery", "intermaxillary fixation", "oral microbiota", "dental plaque" have been included, highlighting the possible variations of the oral microbial flora resulting from the intermaxillary block.

**Results:** Despite the limited literature present, studies have shown a temporary impairment of oral hygiene due to minimal changes in periodontal microflora, but there has been no increase in the long-term concentration of periodontal bacteria. In particular, the concentration of the bacillus *Eikenella corrodens* (Gram-negative, parodontopathogenic, responsible for the onset of infectious endocarditis) tends to increase temporarily in a statistically significant way (p=0.037) during the permanence of the intermaxillary block; however, a statistically significant decrease (p=0.017) of this concentration is observed within the end of the intermaxillary fixation period. During intermaxillary blockage the plaque index slightly increases up to 21.3% and the coccoid one is the most common bacterial form. This index decreases up to 8% when the patient can resume, in full autonomy, the correct oral hygiene routine at the end of the fixation period.

**Conclusions:** It is possible to affirm that the intermaxillary block temporarily worsens the oral hygiene conditions of the patient due to the impossibility of an effective mechanical control of the plaque. However, good pre-treatment home oral hygiene, compliance with professional oral hygiene sessions during the period of intermaxillary block and the restoration of correct post-fixation home oral hygiene allow a significant reduction in these values. Finally, it is essential to evaluate, pre-surgically, the eating habits and nutritional status of the subject. At the end of the blocking period, the patient must resume a correct diet, in order to promote scarring, immune reaction and coagulation.

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