

## **Conventional orthognathic surgery versus surgery first approach: occlusal outcomes, treatment time and efficiency**

**Introduction:** Differently of the Conventional Orthognathic Surgery (COS), Surgery First Approach (SF) is performed prior to dental decompensation for immediate improvement of facial esthetics. However, the assumption that SF skeletal relapse influence the final occlusion has been raised. **Objectives:** To compare the occlusal outcomes, treatment time and efficiency of both orthodontic-surgical approaches. **Methods:** SF group comprised 25 patients (7 male, 18 female) with a mean age of 31.2 years treated with the surgery first approach. COS group comprised 21 patients (10 male, 11 female) with a mean age of 28.5 years treated with conventional orthognathic surgery. Both groups included similar ratio of Class I, II and III malocclusions. Cephalometric variables were measured at pre and posttreatment phases. OGS and PAR Index were evaluated in pre and posttreatment dental models. Efficiency was calculated as the rate between the percentage of PAR reduction and treatment time, in months. Intergroup comparisons were performed using t and Mann-Whitney tests ( $p < 0.05$ ). **Results:** SF group showed a greater increase in the mandibular length compared to COS group. The maxillomandibular discrepancy increased in SF group and decreased in COS group. The lower face height increased in SF group and decreased in COS group. The mandibular incisor labial inclination and the lower lip thickness decreased in SF group and increased in COS group. SF group presented better occlusal outcomes (final PAR and OGS), shorter treatment time and greater efficiency. **Conclusion:** Surgery-first approach presented superior occlusal outcomes with a shorter treatment time compared to conventional orthognathic surgery. Surgery-first approach was more efficient than conventional orthognathic surgery.