## ABSTRACT

**Introduction:** The retromolar fossa is an anatomically suitable skeletal anchorage site. The aim of this report was to introduce a novel appliance for the correction of skeletal Class III malocclusions with mandibular dentition distalization for Yemen patients of Sana`a university. The placement site and the procedure of the ramal plate are described. The resulting force vectors are parallel to the functional occlusal plane leading to efficient molar distalization. This approach is demonstrated with 6 adult Yemeni patients of Sana`a university who refused a surgical treatment option. This ramal plate may be indicated for total arch distalization for nonextraction and nonsurgical cases. Adult Class III skeletal pattern is either the mandible is too far forward and/or the maxilla is too far back. It is as if the teeth are reaching to contact teeth in the opposing dental arch. The patient of Class III skeletal pattern is take sever, mild or moderate skeletal class III malocclusion.

The aim of the study: The purpose of this study is to introduce placement of a ramal plate in retromolar fossa as a novel temporary skeletal anchorage devices (TSADs) for correction the skeletal Class III malocclusion by distalization of mandibular dentition, among the Yemeni patients.

**Material and methods:** This study will be approved by Sanaa University. The sample consisted of 6 adults who came to orthodontic treatment at the Department of Orthodontics at the Dental College of Sanaa University. The criteria for patients will include skeletal Class III malocclusion. ramal plate, anoval Measurement using Conbeem analysis Horizontal Skeletal Pattern, Vertical Skeletal Pattern Dental analysis and soft tissue analysis. CBCT image superimposition before and after distalization Panoramic image from CBCT image before and after distalization

**Result**: The result showed that:

1) All the patients have total arch distalization of the mandibular jaw in a broad range of time, 7-8 months.

2) In non-extraction and non-surgical cases, this ramal plate is indicated for total arch distalization.

3) The patient with a Class III skeletal pattern who had severe, mild, or moderate skeletal Class III malocclusion was treated using this method.

4) The retromolar fossa is an anatomically appropriate site for skeletal anchorage.

**Conclusion:** The retromolar fossa is an anatomically suitable placement site for ramal plates. The resulting force vectors are parallel to the occlusal plane, leading to efficient molar distalization. Ramal plates may be a viable treatment option for mandibular total arch distalization in Class III patients who are reluctant to have orthognathic surgery.

**Key words**: Retromolar fossa, a noval ramal plate, mandibular, distalization, ClassIII, Superimposition, dentofacial surgery.