**Comparative Evaluation of Efficacy of Conventional Arch Bar, Intermaxillary Fixation Screws, and Modified Arch Bar for Intermaxillary Fixation**

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*Journal of Maxillofacial and Oral Surgery*

AIM: Comparative evaluation of efficacy of conventional arch bar, intermaxillary fixation screws, and modified arch bar with respect to plaque accumulation, time required for procedure, postoperative stability after achieving the intermaxillary fixation, mucosal growth, and complication encountered for intermaxillary fixation.

**Materials and methods:** This study is a randomized clinical trial in which participants were divided into three groups of 10 each, and designated as Group A, Group B, and Group C. In Group A, intermaxillary fixation was achieved by the conventional method using Erich arch bar, fastened with 26-gauge stainless-steel wires. In Group B, intermaxillary fixation was achieved by the use of 2 mm × 8 mm 4-6 stainless-steel intermaxillary fixation screws. In Group C, intermaxillary fixation was achieved by modified screw arch bar. A conventional arch bar was modified by making perforations in the spaces between the winglets along the entire extension of the bar which was then adapted to the vestibular surface of the maxilla and mandible, close to the cervical portion of the teeth, and perforations were made in the inter-radicular spaces with a 1.1-mm bur, and after this, 1.5-mm screws were placed to fix the bar.

**Results:** In the present study, a total of 30 patients were analyzed. The average working time for Group A, Group B, and Group C were 110, 16, and 29 min respectively. Oral hygiene scores through modified Turskey Gilmore plaque index which was taken at immediate postoperative, 15, 30, and at 45 days. Maximum hygiene was maintained in intermaxillary fixation screw group followed by modified arch bar group and conventional arch bar group. Maximum stability was seen in the conventional arch bar group followed by modified arch bar group and intermaxillary fixation screw group. With respect to mucosal coverage, maximum mucosal growth was seen in intermaxillary fixation screws group. When complications were taken into consideration, maximum complications were reported in Group A followed by Group B and Group C.

**Conclusion:** This study emphasizes that the use of modified arch bar is quick and easy method than conventional arch bar with least chances of glove puncture and needle stick injury to the operator. Oral hygiene maintenance is comparatively better in patients with modified arch bar than with conventional arch bars. Modified arch bar was significantly stable when compared with IMF screws, and therefore, for the patients who require long-term intermaxillary fixation, modified arch bars can be a viable option.

**Keywords:** Arch bar; Intermaxillary fixation; Intermaxillary fixation screws