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Orthodontic extraction of severely crowded maxillary canines-aesthetic assessment of anterior occlusion

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Introduction: In crowded cases with severely mal-positioned maxillary canines, common approach focuses on extraction of the maxillary first premolars, which is often an anchorage demanding and a lengthy treatment option. However, extraction of the maxillary canines and closing the spaces using the first premolars as substitutes for the canines provides a good treatment outcome and requires much less time, but is a much less acceptable treatment option by orthodontists although there is no evidence that the latter approach provides less aesthetic treatment outcome than the former.

Aim: To assess whether there is an aesthetic difference in the orthodontic treatment outcome between extracting the maxillary canines or maxillary first premolars.

Methods: Ten sets of study models were prepared in the laboratory to the best occlusion possible using 5 different shapes and/ or sizes of acrylic teeth. For each tooth shape and/ or size 2 study models were created, one with the maxillary canines were removed and the other with the maxillary first premolars were removed. Photographs of the anterior occlusion were rated by 15 dental and 15 non-dental evaluators using a scale from 1 (excellent) to 5 (poor).

Results: The range of mean aesthetic score was 1.8-3.8 and 2.2-3 for non-dental and dental raters respectively, with no statistically significant difference was found between the two nor between the two extraction types (P> 0.05).

Conclusion: Extraction of the maxillary canines provides a comparable aesthetic result to extraction of the maxillary first premolars when evaluated by both dental professionals and lay individuals.

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