

Evaluation of skeletal and Occlusal Characteristics in cases of congenitally absent maxillary lateral incisors

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Background:

Regardless the third molars, maxillary lateral incisors (MLI) have the highest prevalence of being congenitally absent. The aim of the present study was to evaluate the occlusal and cephalometric characteristics of patients with MLI missing.

Methods: Pretreatment dental casts and cephalometric radiographs of twenty-six adult patients who had unilateral or bilateral maxillary lateral incisor missing and had been treated in orthodontic department of Tehran University of Medical Sciences was selected according to the inclusion criteria. The following occlusal features were measured: Upper and lower arch width in canine and molar area, arch length, overjet and overbite and any anomalies or missing in other teeth of both jaws. Cephalometric measurements included the sella nasion A angle (SNA), sella nasion B angle (SNB), the ANB angle and Wits appraisal. The findings of dental casts were compared with a control group with normal occlusion and the cephalometric measurements were compared with standard cephalometric norms.

Results: Among the studied 26 patients, 8 patients had bilateral and 18 patients had unilateral MLI missing. In the cases with unilateral missing, 66.67% (12 cases) had MLI missing on the right side. In twelve cases out of 26 (46.15%), the missing of MLI was associated with other anomalous or congenitally absent tooth. In comparison with control group, the overjet was significantly lesser ($p < 0.05$) and upper inter canine width were smaller. Both ANB angle and Wits were significantly decreased in MLI missing group ($p < 0.05$).

Conclusion: Congenital missing of maxillary lateral incisor was highly correlated with other tooth anomalies. Most of cases with absent MLI demonstrated some collapse in maxillary arch and had some features of skeletal and dental Class III malocclusion.