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Dentoalveolar effects of slow and rapid maxillary expansions in complete bilateral cleft lip and palate

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Objectives

The aim of this study was to compare the dentoalveolar effects of slow and rapid maxillary expansions in patients with complete bilateral cleft lip and palate.

Methods

Thirty patients with complete bilateral cleft lip and palate diagnosed with maxillary constriction were equally divided into two groups. Group 1 comprised 15 patients treated with Quad-helix, while Group 2 comprised 15 individuals treated with conventional Hyrax expander. Digital dental models were obtained pre-expansion (T1) and 6 months after expansion (T2). Maxillary dental arch transverse dimensions, arch perimeter, arch length and palatal depth were measured. Intergroup and interphase comparisons were performed with t tests and paired t tests, respectively (p<0.05).

Results

Slow and rapid maxillary expansions promoted significant and similar increase of arch widths and perimeter. Rapid maxillary expansion caused a significant decreasing on the arch length and palatal depth.

Conclusions

Slow and rapid maxillary expansions seem to be similarly effective for the correction of maxillary dental arch constriction in complete bilateral cleft lip and palate patients.