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READER'S FORUM

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Skeletal and dentoalveolar changes after miniscrew-assisted rapid palatal expansion in young adults: A cone-beam computed tomography study.

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I appreciate the article by the authors to evaluate the changes after miniscrew-assisted rapid palatal expansion in young adults. And I would like to ask a few questions listed below.

Q1. In comparison with surgically assisted rapid palatal expansion (SARPE), I believe that miniscrew-assisted rapid palatal expansion has more clinical advantages. It is simpler, less invasive, and easier to adapt. But, decreased amount of skeletal expansion and reduced stability of the expansion result could be concerns to some clinicians.
Could you express your opinions on using miniscrew-assisted rapid palatal expansion to replace SARPE?

Q2. If a retention period is defined as the period between ending the active expansion and removing the palatal expander from the patient's mouth, how is your retention period with miniscrew-assisted rapid palatal expansion different from SARPE and conventional rapid palatal expansion? Do you advocate any specific techniques such as removing the expander from teeth only but not the miniscrew expander part itself?

Questioned by
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We appreciate the reader's interest and hope the following explanation would be helpful. SARPE has been the treatment of choice in adults who have transverse discrepancy. However, SARPE has several limitations in terms of financial burden and surgical morbidity. Miniscrew-assisted RPE (MARPE) can offer an alternative approach for expanding the maxilla without surgical procedures.

A1. From our report, the expansion at the level of cusptips accounted for 37.0% of skeletal expansion, 22.2% of alveolar expansion, and 40.7% of dental expansion. The proportion of skeletal expansion (37.0%) was comparable to those previously reported after SARPE (21.5–46.3%).[1-3]
Regarding the stability, we noticed the skeletal expansion decreased by 0.64 mm (29.1%) one year after MARPE when calculated with our patients' dataset. We could find only one SARPE study that investigated the stability. Gurgel et al.[4] reported that 4 months after SARPE the skeletal expansion exhibited 0.19 mm (4.47%) of relapse while dental expansion did 45.2% of relapse. Because the two studies measured at different time points and used different parameters, future well-controlled study may need to evaluate clinical efficacies and stability of MARPE and SARPE.
Based on current knowledge, the authors believe MARPE can be used as substitute of SARPE in young adults because success rate of the midpalatal suture opening

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after MARPE is approximately 85% and the extent of relapse is clinical acceptable.

A2. The authors do not think MARPE needs different retention protocol from SARPE or conventional RPE. Therefore, after the required expansion was achieved, the appliance was maintained during at least 3 months of retention. The authors modified the retention period according to each patient's initial status: if a patient has a constricted maxilla, high palatal vault, or weak occlusal force manifested by long face, the appliance was maintained more than 3 months. The decision was based on clinical experience, unfortunately not on scientific evidences. As the reader suggested, there were several cases we removed the band(s) for some specific tooth/teeth before the appliance removal to enhance relapse for the tooth/teeth.

Replied by
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