

Letter to editor

Spectrum of palatoplasty has detrimental effect on maxillary growth: myth or fact?

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Palatoplasty is a surgical procedure that aims at reconstruction of the soft and/or hard palate of subjects with cleft palate. The eve of 19th century witnessed great evaluation in the technique of palatoplasty, allowing successful closure of a cleft palate and optimal outcomes¹. The basic goals of the surgery to:

1. Close the abnormal opening between nose and mouth.
2. Help the patient to develop normal speech.
3. Aid in feeding, swallowing, breathing and normal development of associated structure in the mouth.

There is various type of palatoplasty. Such as¹:

1. Von langen beck's bipedicle flap technique.
2. Veau-Wardill Kilner pushback technique.
3. Bardach's two flap technique.
4. Furlow Double opposing Z plasty.
5. Primary pharyngeal flap.
6. Two stage palatoplasty.
7. Intravelar veloplasty.
8. Vomer flap.

Palatoplasty has detrimental effect on maxillary growth or not? Different studies showed different results (Table 1)²⁻⁷.

Fudalej et al. (2012)², investigated the effect of palatoplasty on dental arch relationship. In the exposed group, palatal bone of none cleft side only was left denuded, including scar formation. In the unexposed group, a vomerplasty with tight closure of the soft tissue was applied. Three raters graded the dental arch relationship using the EUROCRAN Index. The dental arch relationship in exposed group was less favorable than in the unexposed

group.

Alam et al. (2013)³, also evaluated the postnatal treatment factors affecting craniofacial morphology in Japanese unilateral cleft lip and palate (UCLP) subjects. They revealed, subjects who had a two-stage palatoplasty had better maxillary growth and proclination of maxillary incisors and gave consistently better craniofacial morphology than other type of palatoplasty.

Fudalej et al. (2011)⁴, used one-stage and three stage surgical protocols for UCLP subjects. Four raters graded dental arch relationship using the EUROCRAN index. Their study suggested that dental arch relationship in the one-stage sample was less favorable than in the three-stage group.

Kajii et al. (2013)⁵, analyzed 135 subjects with UCLP. The Goslon Yardstick was used to assess the dental arch relationship. Their study suggested that palatoplasty using pushback alone made the dental arch relationship significantly worse than palatoplasty using pushback with buccal flap.

Liao et al. (2012)⁶, analyzed 334 cephalometric radiographs from 95 patients with non syndromic complete UCLP who underwent hard palate repair by two different techniques (vomer flap verses two flap). They suggested, the technique of hard palate repair, vomer flap verses two flap had a significantly adverse effect on growth of maxilla.

Long term study of patients with UCLP suggests that two stage closure of the palate with delayed repair of the hard palate results in better maxillary growth. The growth advantages was maintained into early adulthood and was not only statically significant but had great clinical importance⁷.

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Surgeon should consider the fact that spectrum of growth. palatoplasty has detrimental effect on maxillary

Table 1. Results of different studies on palatoplasty affecting maxillary growth.

Author	Type of palatoplasty	Method used	Outcome
Fudalej et al. (2012) ²	1.Exposed 2.Unexposed	Eurocran index	1. Less favorable. 2. Favorable.
Alam et al. (2013) ³	1.Pushback alone 2.Pushback with buccal flap 3.two stage palatoplasty	Cephalometric radiograph	Two stage palatoplasty had better maxillary growth and proclination of maxillary incisors. Also gave consistently better craniofacial morphology than other types of palatoplasty.
Fudalej et al. (2011) ⁴	1.One-stage 2.Three-stage	Eurocran index	One-stage sample was less favorable than three-stage group.
Kajii et al. (2013) ⁵	1.Pushback alone 2.Pushback with buccal flap	Goslon Yardstick	Palatoplasty using pushback alone made the dental arch relationship significantly worst.
Liao et al. (2013) ⁶	1. Vomer flap. 2.Two flap	Cephalometric radiograph	Vomer flap has a smaller adverse effect on maxillary growth than two flap.
Friede et al. (2001) ⁷	1. Two stage closure with delayed repair. 2. Conventional method including vomer flap and pushback procedure.	Cephalometric radiograph	Two stage closure with delayed repair results in better maxillary growth.

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