

## CROWDING OF TEETH IN ADULTS A CASE REPORT OF NON-TRADITIONAL TREATMENT

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راجعت قسم تقويم الأسنان مريضة سيري لانكية عمرها ٢١ عاماً، وكانت شكواها الرئيسية وهي وضع الناب العلوي المرتفع ونقص المسافة ليزوطه بشكل صحيح .  
والفحص الخارجي للوجه يبدى منظراً للوجه طبيعياً ومقبولاً . والفحص القموي يظهر علاقة صنف أول للإرحاء في الجانب الأيسر في حين علاقة الأرحاء في الجانب الأيمن هي علاقة حدية خدبة . في حين علاقة الأنياب في الجانبين هي علاقة صنف ثاني .  
الخط الأوسط للأسنان العلوية منحرف نحو الجانب الأيمن بمقدار ٣ ملم نسبة للخط الأوسط الوجهي . في حين الخط الأوسط للأسنان السفلية منحرف نحو الأيسر بمقدار ( ٥ , ٠ ) أقل من العلوي . الناب الأيمن العلوي بارز نحو الدهليزي وحديته فقط البارزة . الضاحكة الثانية السفلية اليسرى غائبة ، والمريض لم يستطع الإجابة فيما إذا كانت قد قلمت أم أنها لم تبرغ مطلقاً . وتحليل المسافات أظهر نقصاً مقداره ١٥ , ٥ ملم في الفك العلوي و ٥ , ٥ ملم في الفك السفلي . وتحليل بولتن أظهر عدم وجود شدوذ في العرض الأنسي الوحشي للأسنان السفلية العلوية . وأظهرت الصور الشعاعية إيجاجاً في الجزء الدروري من جذور الناب العلوي الأيمن والأيسر . ولم تعطى الصور الشعاعية تأكيداً فيما إذا كان جلد الرباعية العلوية اليمنى قد حدث فيه امتصاص . وأظهرت قياسات التحليل المقطعي ميلاً لحدوث عضة مفتوحة لأن زاوية الفك العلوي كانت ٢٨ درجة وكانت القواطع العلوية والسفلية بارزة وكانت المسافة بين القواطع العلوية والسفلية حوالي ٦ ملم وبروز القواطع أحدث زاوية قاطعة مقدارها ١٢٣ درجة . وكان هدف المعالجة تصحيح المسافة تصحيح وضع الناب العلوي في الفك ، تصحيح انحراف الخط الأوسط العلوي والسفلي ، التقليل من بروز الفك العلوي . وبما أن المريضة كانت كبيرة السن لم تجر أي محاولة لتبديل العلاقة الأفقية والعمودية . وتقرر قلع الضاحكة الأولى العلوية بسبب النقص في المسافة في الفك العلوي والتي مقدارها

### Case History

A 21-year-old female patient, originally from Sri Lanka, reported to the Department of Orthodontics at the Dental Faculty in Bergen with a chief complaint concerning the high position of the upper right canine and lack of space for its alignment in the arch.

The extraoral evaluation revealed a symmetrical and pleasant facial appearance with straight profile [Fig. 1]. Intraorally, the molars on the left side were in supra Class I relationship due to missing # 34. On the right side, the molars were in cusp-to-cusp

relation due to the anteriorly positioned upper left segment [Fig. 2]. The canines on both sides were in Class II relationship. Overjet was 5 mm and overbite was 4 mm. The upper midline was shifted 3 mm to the right side relative to the face midline. The lower midline was shifted to the left but to a lesser extent (0.5 mm) than the upper. The upper right canine was buccally infra-positioned having only its cusp erupted. The lower left second premolar was absent, but the patient couldn't give any definite answer as to whether it had been extracted or has never erupted.

Analysis of space showed that there was a lack of 15.5 mm in the maxilla and 5.5 mm in the mandible. As to the Bolton analysis, there was no discrepancy between the mesiodistal widths of the maxillary and mandibular teeth.

Intraoral radiographs showed a rather curved apical part of the roots of the upper right and left canines. The radiographs failed to give any definite information on whether the root of the upper right lateral incisor was affected by root resorption [Fig. 3].

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Figure 1. Pre-treatment facial photographs

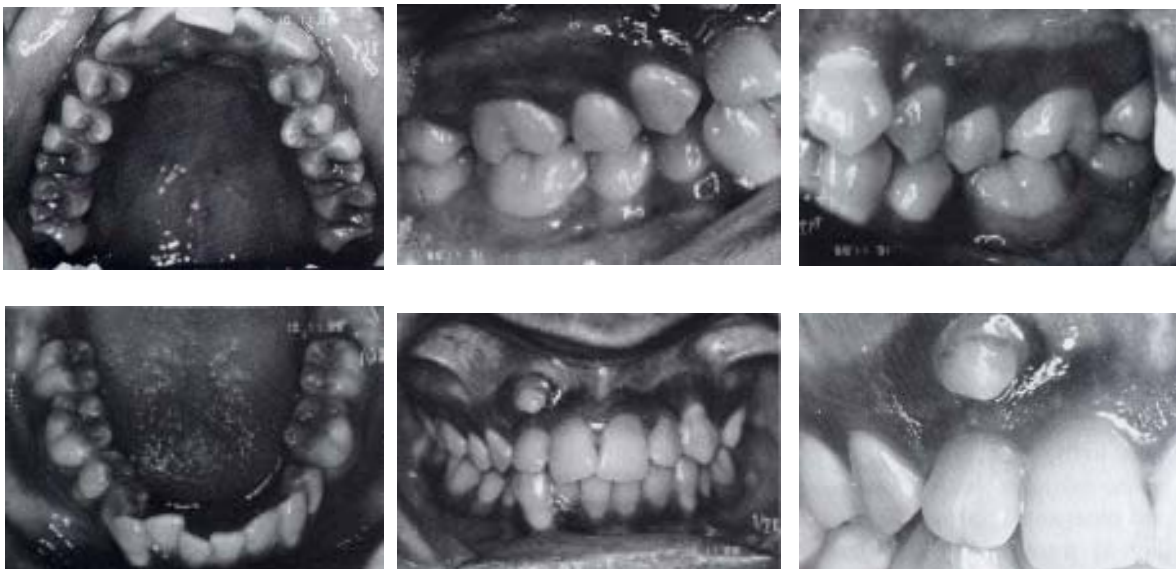


Figure 2. Pre-treatment intraoral photograph

Cephalometric measurements revealed a tendency for bite opening, since the intermaxillary angle was  $28^\circ$ . Both the lower and upper incisors were protruded. The distance from the tip of the upper and lower incisors to the NA and NB lines, respectively, was 6 mm. The protrusion of the incisors resulted in an inter-incisal angle of  $123^\circ$  [Fig. 4],

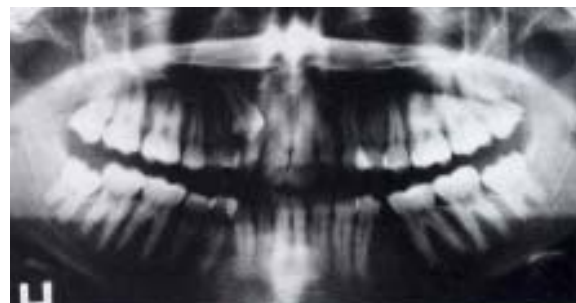


Figure 3. Pre-treatment OPG radiograph.





1



2



3



4



5

Figure 7. Intraoral photographs during retention. (1-5)

erupted and accessible for bonding. The decision for extraction in the lower jaw was somewhat dubious. The patient lacked tooth # 34 and extraction of tooth # 44 would have been logical. Still, a pre-molar extraction would have lead to further distal tipping of tooth # 43. Hence, an extraction of tooth

# 42 was made due to both the moderate curve of spew and the slight periodontitis of that tooth.

A transpalatal bur was placed between the upper first molars and a cervical headgear was used as anchorage. To avoid any damage of the upper right lateral incisor due to the malposition of the adjacent cuspid, the latter was moved buccally by segmental arch. Bonding of tooth # 12 was delayed. The upper right cuspid was moved distally by Class



Figures. Post-treatment OPG radiograph.

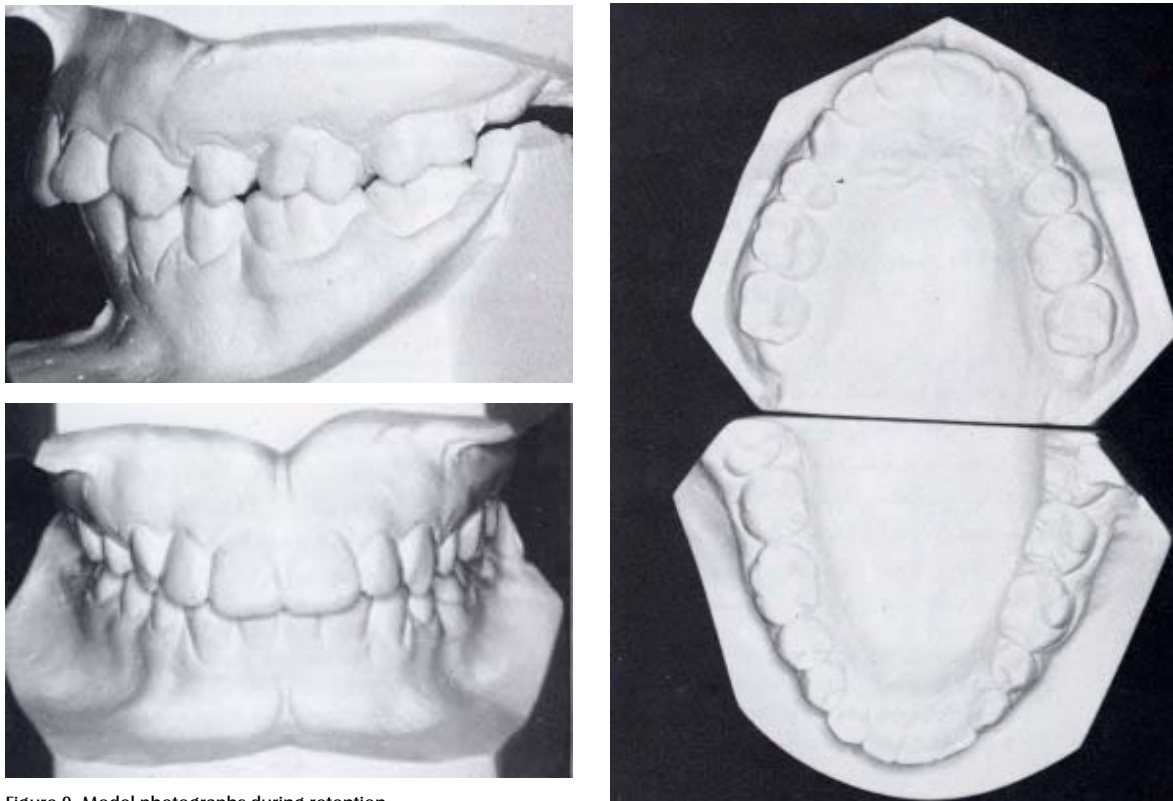


Figure 9. Model photographs during retention.

I elastics and the midline was corrected by asymmetrical Class II elastics. A contraction arch was used to retrude the upper front segment. In the lower arch, a coil was placed to move the lower right canine mesially and then a bull-loop was used to mesialize the lower right segment [Fig. 5].

The treatment was completed in 18 months. Pulling and alignment of tooth # 13 took nine months and contraction was completed in one and half months. A long adjustment phase proceeded the debonding as the patient missed many appointments.

### Results

The final facial photographs show a pleasing smile and a profile with good facial symmetry [Fig. 6]. The upper dental midline and the facial midline were coincident. The molars and the canines on the left side are in Class I relationship and so are the molars on the right side. The upper right canine is in Class III relationship with the lower right canine and is slightly rotated distopalatally [Fig. 7]. Reshaping

of tooth # 43 was not necessary neither for an aesthetic nor for a functional reason.

The important goal in this case was to correct the upper canine position without causing any damage to the neighboring teeth and to control the anchorage [Fig. 8]. Obtaining good intercuspation on the right side despite the asymmetrical tooth extraction was another goal.

There was a reduction in the ANB angle from 4° to 2°. The reduction of 2° can be attributed mostly to the mandibular auto-rotation following the mandibular molar mesialization which lead to anterior displacement of the B point.

The lower face height was decreased and the lower anterior teeth were protruded [Fig. 4]. The final study casts were taken seven months after debonding [Fig. 9] and the prognosis for future stability with prolonged retention appears to be good.

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