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ABSTRACT

Amongst all permanent teeth, canine has longest path of eruption. Canine tooth germ develops near the orbit, it has to travel long for the eruption in the arch. So canine is the tooth which is frequently involved in impaction or highly placed or out of the arch. The ectopic eruption and impaction of maxillary permanent canines is a frequently encountered clinical problem.

Here two case reports are presented with highly placed canine, which is treated by segmental mechanics with T- loops for extrusion and retraction of canine. It took around 6 months for alignment of canine.

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INTRODUCTION:

Canine plays an important role in esthetics. Being corner tooth of mouth and its function deserves special attention for its impaction to be properly diagnosed and managed.

According to Shafer, Hine and Levy, impacted teeth are those which are prevented from erupting by some physical barrier in the eruption path.¹ Of all patients with maxillary impacted canines, it is estimated that 8% have bilateral impactions.²

Impacted canines are settled in the arch by different ways. with the use of different loops, extrusion mechanics with traction which includes surgical opening also, sometimes.^{1,2}

CASE REPORTS

Case 1

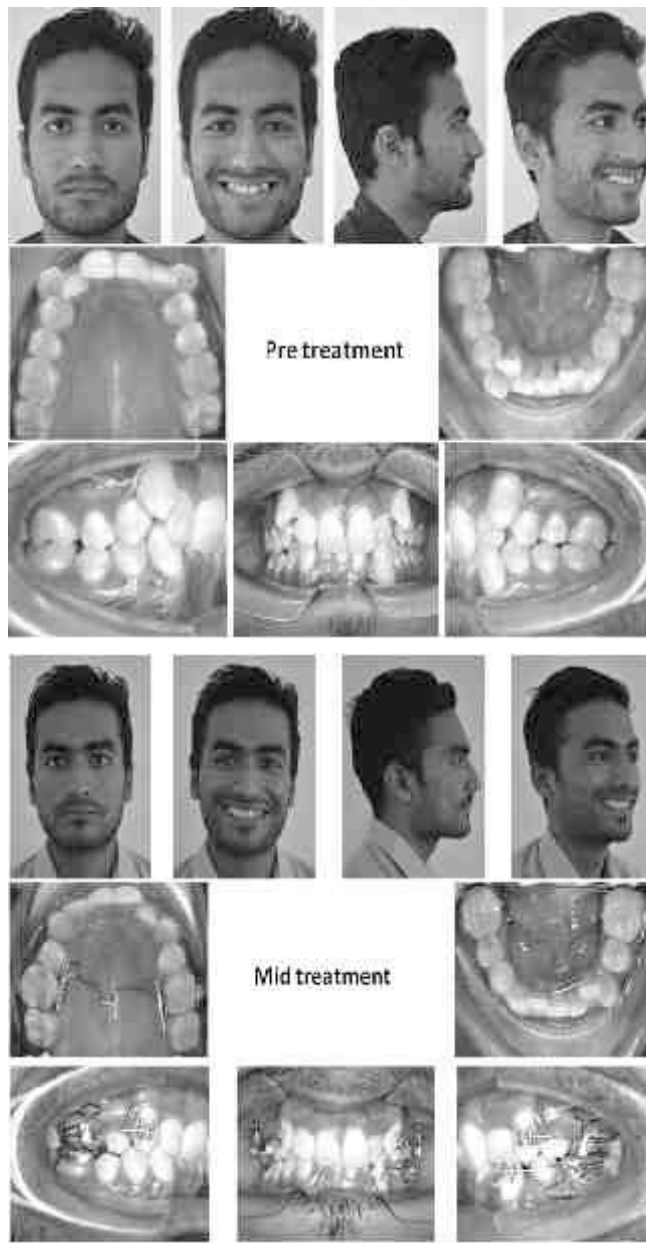
22 year old male patient came with chief complain of irregularly placed upper and lower front teeth. On clinical examination it was found that highly placed canine on both the sides.

Treatment plan

Extraction of 14 24 34 was decided & getting canine in the arch with the T-loop. asymmetric extraction plan was there because of class I on one side & class II on other side.

Treatment progress

For highly placed canine segmental mechanics was used. T loop was given both the sides. After retraction and extrusion of canine full arch bonding started. T loop was made from 19*25 TMA wire & six pre activation bends were given before insertion of T-loop.



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Case 2

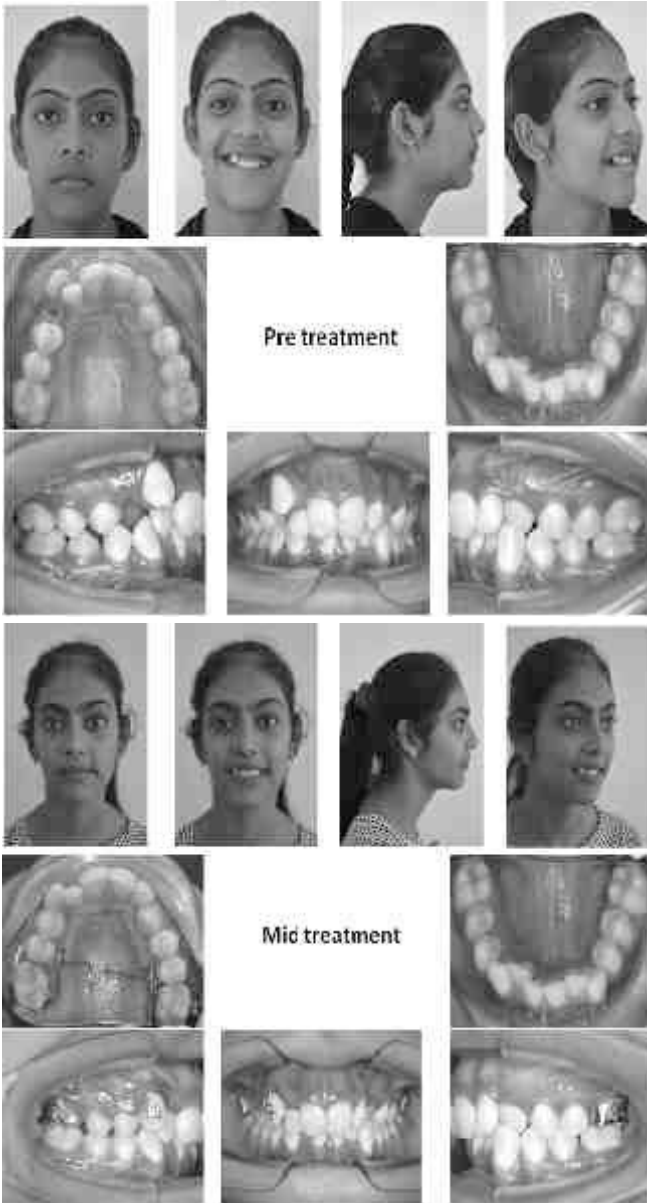
20 year old female patient came with the chief complain of irregularly placed upper front teeth. On clinical examination highly placed canine on right side was found.

Treatment plan

Patient came after her deciduous canine extracted. So non extraction plan was decided to get canine in the arch with T-loop.

Treatment progress

Segmental mechanics was used for highly placed canine. T loop was used for extrusion and retraction of canine. T loop was made from 19*25 TMA wire & six pre activation bends were given before insertion of T-loop.



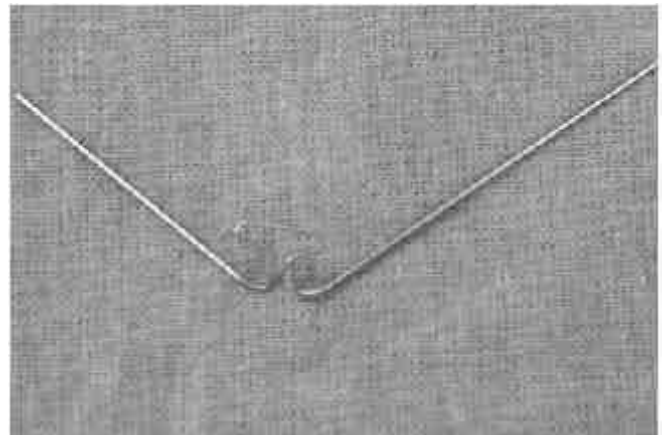
DISCUSSION

Till date, continuous arch-wire sliding mechanic remains the most often used and most popular form of mechanics. The advantages of this approach may not apply to many complex dentally and periodontally compromised cases.

The most common alternative approach is segmented arch mechanic proposed by Charles Burstone et al. The underlying principle of hybrid segmental mechanics includes simplifying treatment by “segmenting” posterior and anterior region of the arch.

A single continuous wire is placed in brackets from second molar or first molar up to canines but bypassing the incisors. The primary reason for this segmentation is that it eliminates the early engagement and round tripping of the incisors, potentially eliminating or minimizing its adverse consequences. This allows the retraction of the canine in earlier stage of treatment. T-loop has been recognized as a effective means to achieve desired tooth movement by differential moments between the anterior and posterior segments. Relatively constant force produced in segmental mechanis while as in continuous arch, inconsistent force is produced.

In segmental technique the reactive forces are not transferred to the other teeth, minimizing side-effects. A continuous arch takes the adjacent teeth as anchor tooth causing side effects on all the adjacent teeth, which are bracketed.



Advantages of segmental T-loop:

- When canine is unfavourable, root tipped mesially. When canine is out of the arch or highly placed, it can be used for retraction as well as extrusion without side effects like canting of the arch.
- Only canine is retracted rather than whole anterior segment, less stress on the anchor molars.
- We have not to wait for the insertion of SS wire & then retract canine. In initial phase we can retract canine & sometimes anterior crowding is somewhat solved by driftodontics, so less time in leveling & aligning phase.

CONCLUSION

As canines are corner stones of mouth, it is important to align them properly in the arch to improve esthetics as well as for function. Sometimes it requires multidisciplinary approach. If proper diagnosis and biomechanics is used, the goal is not difficult to achieve.

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