Mini implant for intrusion of the molar – A simple method

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Abstract:

For the treatment of extruded molars, various conventional orthodontic techniques have been used. But those methods may lead to undesirable movement of the anchorage units and lengthen treatment time because of limited tooth borne anchorage potential. Introduction of micro-implants as orthodontic anchorage, has enlarged treatment possibilities due to their many advantages such as simpler surgical procedure, less cost, immediate loading, and their ability to be placed in any area of the alveolar bone.

Key words: Micro implants, molar intrusion

Introduction:

The overeruption of maxillary molars usually results from early loss of antagonistic teeth. The elongated dentoalveolar process may cause problems of occlusal interferences and functional disturbances and may result in great difficulty during prosthetic reconstruction.

Review of literature:

Historically, molar intrusion in orthodontics has been difficult to achieve[1]. This tooth movement has primarily been obtained by holding the molars against vertical growth[2]. Clinical reports of attempted molar intrusion in adult patient show small amounts of molar movement, which is difficult verify in lateral cephalometric superimpositions.

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The clinical appearance of intrusion in many cases has resulted from extrusion of the adjacent teeth[3]. Generally, several conventional options are available to increase occlusal clearance. Coronal reduction often requires crown restorations at the expense of tooth vitality. Another alternative raised by Schoeman and Subramanian[4] is a posterior segmental osteotomy of the maxilla to impact the elongated segment, but patients must undergo the risk of general anaesthesia and high cost associated with this procedure.

One of the recent developments in orthodontis is the introduction of micro implants. Orthodontically molar can be intruded by temporary anchorage devices (TAD or mini implant made up of titanium) on either side of molar bucally and palatally. Bucally TAD can be placed between molar and second molar, palatally between first molar and second molar. An elastic chain can be stretched from bucally placed mini implant to palatally placed mini implant passing occlusally to first molar. Another method is to engage the elastic chain from molar band to mini implant which will give pure intrusion (Fig.A).

Orthodontic mini implants are available in diameter range from 1.2 mm to 2mm and length range from 8mm to 12mm. Selection of the length and diameter of micro implant will depend upon site of implant placement.

Conclusion:

Introduction of micro-implants as orthodontic anchorage, has enlarged treatment possibilities due to their many advantages such as simpler surgical procedure, less cost, immediate loading, and their ability to be placed in any area of the alveolar bone.

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