

The Incisal Edge Bracket for Gold Chain Attachment to Unerupted Teeth

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Abstract. A method is described to reduce the morbidity involved in direct bonding of unerupted incisors by use of a pre-contoured bracket. Increased bracket stability during placement is an additional advantage.

Index words: Bonding, unerupted teeth

Introduction

Surgical management of the unerupted anterior tooth has been described extensively, with emphasis on the maxillary canine. Much ingenuity has been applied to methods of attachment for the application of orthodontic traction. Threaded pins, gold inlays, stainless steel bands, cast cap splints, and ligature wires have all been used. (Von der Heydt 1975; Oliver and Hardy 1986). Where gold chains are used for traction, they may be attached to a mesh pad

or other form of orthodontic bracket, or simply embedded in light-cured adhesive (Ferguson 1995). Although the direct bond technique has most frequently been used for impacted maxillary canines, it is equally applicable to incisor teeth. This short paper describes the use of a pre-contoured attachment bracket (Fig. 1) for bonding to the incisal edge of unerupted incisor teeth, designed to reduce the morbidity involved in the surgical procedure of bracket placement.



FIG 1 The incisal edge bracket

Laboratory construction

A Dentaurum mesh base is contoured in the laboratory to approximate to the anatomical form of the incisal edge of a maxillary incisor. The distal link of a 9-carat 2.5-mm gold chain is attached to the base by a spot-welded segment of preformed eyelet wire. The eyelet attachment may be augmented by flowing a small amount of solder over the spot-weld, but clinical experience has shown this not to be necessary.

Advantages

Use of the preformed incisal edge bracket has several advantages over the conventional flat pad for attachment to an unerupted incisor:

1. Reduced amount of bone removal is required to gain access to sufficient enamel for bonding. This is particularly advantageous for incisors placed high in the alveolus.
2. For vertically orientated, labially positioned incisors, the risk of fenestration of the labial mucosa over the attachment is reduced as the bulk of the eyelet and first link of gold chain is in the path of eruption/traction.
3. When placing the bracket at operation, gentle positive pressure can be applied to appose the bracket to the incisal edge with a reduced risk of displacement. This minimizes the thickness of the bond layer, and

increases the security of bracket position at a crucial stage in the procedure, avoiding the difficulties often experienced stabilising a flat pad on a smooth surface prior to complete bond cure. The authors suggest that for any surgical exposure of an unerupted incisor tooth, the operator has available a selection of flat and precontoured brackets, enabling the choice of bracket to be made at the time of operation.

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