INTRODUCTION

Tipped molar is a relatively common occurrence in adult dentition. The objective in orthodontic molar uprighting is ideal positioning of the molar which will eventually become an abutment tooth for a fixed prosthesis. The ideal position will improve the periodontal environment for the molar. The benefits provided by molar uprighting are: abutment preparations are simplified; pontic design is improved; reduced mesial periodontal infra-bony defect and so on. In present review article, several appliances and techniques are described for uprighting molars. (J. Taiwan Assoc. Orthod. 21(1): 9-18, 2009)

Key words: Molar uprighting, Mesial tilting

INTRODUCTION

Loss of a first permanent molar is a common problem in adult dentition. If there is no immediate prosthetic replacement or orthodontic space closure, several problems can occur as a result of the loss of a first permanent molar, including mesial tipping of the second and third molars, distal migration of the premolars, and elongation of the opposing molar. Mesial movement and tipping of molars may initiate a vicious cycle of traumatic occlusion, functional interferences, space problems in conjunction with implant insertion, and periodontal problems. After the tipped molar is uprighted, the functional and periodontal situation can be improved. The molar will be under axial stress, and the path of the prosthetic insertion will be parallel to the long axes of the teeth.

The benefits of uprighting mesially tipped molars are: abutment preparations are simplified and parallel paths of insertion is enhanced; pontic design is improved; mesial periodontal lesions are eliminated or reduced without periodontal surgery; and crown-root ratio is improved. Several techniques, appliances and biomechanics for uprighting molars will be described in present article (Table 1).

APPLIANCES AND TECHNIQUES

Lingual arch

Lingual arch (Fig 1) is a simple appliance for uprighting mesially tipped molars. The appliance needs two well fitting molar bands, a pair of half-round tubes and shafts, and 0.036 stainless steel wire. The arch must