

Clinical Section

A Cautionary Tale of Simplified Retention

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Abstract. *Attention is drawn to a possible serious unwanted sequela of a simplified bonded retainer. It is illustrated by three brief case histories.*

Index words: Bonded Retainers, Relapse.

Refereed Paper

Introduction

Many Orthodontists use fixed (bonded) retainers particularly when required for long-term use. I have found a simplified bonded retainer useful for extended rather than permanent retention, where there was a significant risk of some relapse, e.g. following closure of a maxillary midline diastema and where the patient was concerned about such a possibility. This consisted of an appropriately fashioned piece of braided wire (initially 0.0175" and later 0.0195" diameter) bonded to the palatal surfaces of the upper central incisors. Originally, small right-angled bends were incorporated at one or both ends, but later these were dispensed with. The intention was for the bonded retainer to be left *in situ* for some years until the late teens or early twenties when the status of the third molars could be assessed. Recently, however, I have experienced an unwelcome complication, illustrated by the following three brief case histories.

Case 1

SG presented at the age of 10 years with a Class II division 1 malocclusion in the mixed dentition. (Fig 1a). Treatment was started with a bionator and eventually completed, after much delay due to a late eruption pattern, non-extraction with EOT and an upper fixed appliance at the age of 14.3 years. A palatal retainer was bonded to 1|1 and an upper removable retainer was fitted for nocturnal wear. The removable retainer was discarded some 12 months later. She then returned at the age of 17.6 years having recently noticed 'displacement' of 1| (Fig 1b). The bonded retainer was removed and 1| realigned in 2 months with a removable appliance (Fig 1c).

Case 2

LW had previously received removable appliance treatment for a Class II division 1 malocclusion at the age of 10.10 years, 4|4 7|7 having been extracted. She was subsequently referred at the age of 11.7 years, whereupon 6|7 were extracted (Fig 2a). Treatment was later completed by an upper fixed appliance only. A removable retainer for

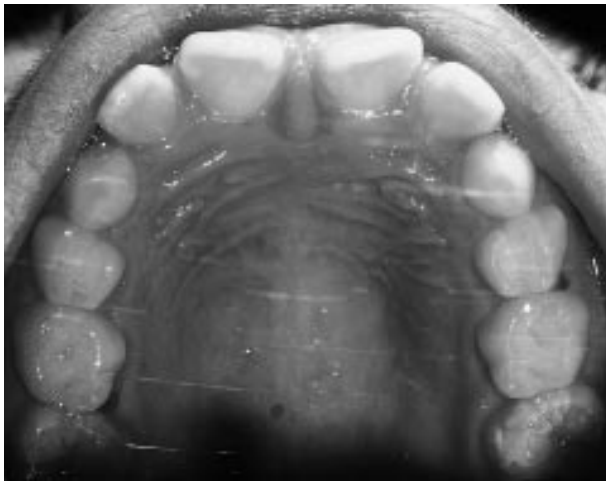
nocturnal use was fitted at the age of 13.6 years. At 15.1 years 8|8 were erupting and the retainer was discarded having first bonded 1|1 palatally. The patient presented 11 months later, having noticed a recent change in 1| position (Fig 2b). The bonded retainer was removed and 1| was realigned with a removable appliance and retained nocturnally for 3 months (Fig 2c).

Case 3

SH was a very nervous child who did not present until the age of 11.9 years and had gross irregularity of the upper labial segment associated with two unerupted mesiodens. These were removed together with 2|2 5|5 at the age of 12.6 years, and treatment by upper and lower fixed appliances commenced (Fig 3a). This was completed at the age of 14.4 years and upper and lower removable retainers were fitted to be worn nocturnally (Fig 3b). These were discarded 15 months later, when 1|1 were bonded palatally. She presented 9 months later at the age of 16.6 years concerned about the position 1| (Fig 3c). The bonded retainer was removed, and 1| realigned with an upper removable appliance and retained nocturnally for 4 months.

Discussion

It is difficult to explain this unexpected and disturbing phenomenon as the bonded retainers all appeared firmly attached. Pizarro and Jones (1992) drew attention to the possibility of relapse of incisor torque occurring whilst a bonded retainer was firmly attached and therefore felt that the torsional rigidity of multiflex wire was suspect. Zachrisson (1995) referring to the twisted wire bonded retainer stated . . . 'is not as stable as would be desirable. In a few cases, it has been dislodged, probably by the forces of mastication and has then become slightly distorted'. It is interesting to note that in all three cases there was an unexpected rotation of one central incisor, always in a distolabial direction. This was similar to the original rotation in patient SG, a 'relapse', but the opposite direction in the other two cases. This does suggest an active 'straightening' of the wire possibly as the result of the wire being 'jiggled' in function. As the phenomenon was reported



(a)



(b)



(c)

FIG. 1 Case 1. (a) SG on presentation—occlusal view. (b) SG occlusal view showing 'relapse'. (c) SG at completion—occlusal view.



(a)

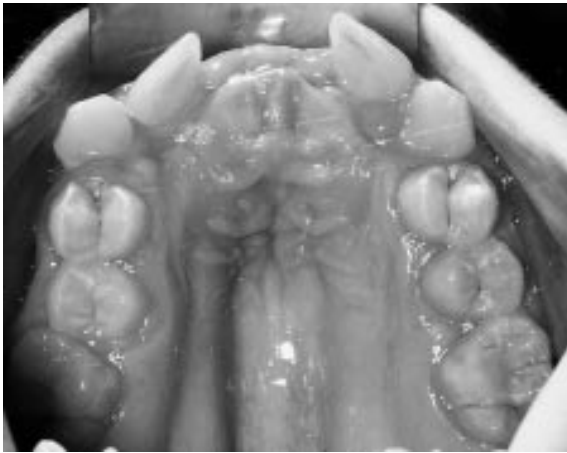


(b)

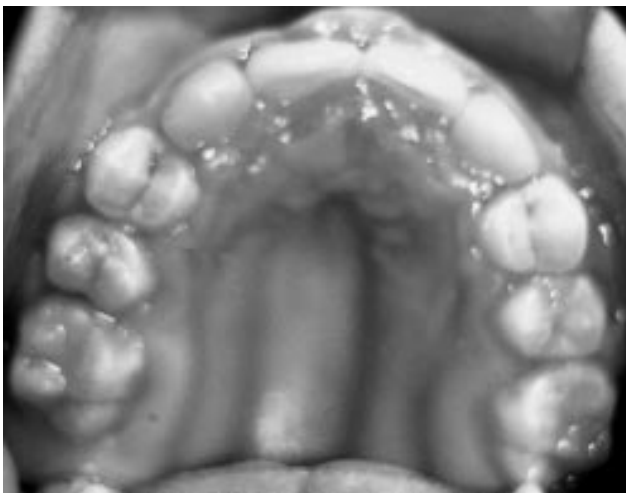


(c)

FIG. 2 Case 2. (a) LW on presentation—occlusal view. (b) LW occlusal view showing 'relapse'. LW at completion—occlusal view



(a)



(b)



(c)

FIG. 3 Case 3. (a) SH occlusal view after oral surgery. (b) SH at completion—occlusal view. (c) SH occlusal view showing 'relapse'.

between 9 and 39 months after retainer bonding, it does suggest individual episodes of 'jiggling' during function may be more significant than day-to-day abuse.

Conclusions

Although such a simple method of retention has many advantages and has been successfully used in many cases, its choice, if at all, must be made with caution. The patient must be informed that such a complication is possible and instructed to observe closely the alignment of the retained teeth, as well as the firmness of the retainer and to contact the Orthodontist if in doubt. Alternatively, it might be preferable to extend the bonded retainer to incorporate all four incisor teeth.

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