Adjunctive treatment to enhance aesthetic results

Dr Basil Mizrahi shows the benefit of minor orthodontic and periodontal treatment to enhance the aesthetic outcome of a case

When looking to achieve good aesthetic results, it is important to use adjunctive treatments to supplement the restorative treatment.

The case

The patient presented unhappy with the appearance of her upper left anterior teeth.

Clinical examination and dental history revealed that the patient was missing an upper left central incisor and had undergone orthodontic treatment to move the adjacent teeth into the missing space. Following the orthodontic treatment, teeth 21 and 22 had been crowned to try to improve their appearance. Tooth 22 had been endodontically treated sometime after the crown was placed. Tooth 21 was labially proclined with a poor colour and shape match to the adjacent tooth 11. Tooth 22 had an exposed crown margin and a poor colour and shape match to the contralateral tooth 12. In addition, the gingival margin of tooth 22 was far more coronal than that of tooth 12. The lower incisors were slightly crowded with the tooth 31 slightly proclined and occluding against the proclined tooth 21 (Figures 1–5).

A wax-up was carried out on the anterior teeth. Matrices were made on the wax-up for use in fabrication of the chairside temporary crowns and for use as preparation guides (Figures 6–8).

Following removal of the existing crowns, it was evident that there was insufficient room labially for a new crown to be brought back into alignment with the adjacent teeth (Figures 9, 10). Temporary crowns were made using methylmethacrylate resin (Figures 11–14).

To create this space two solutions were offered:
1) Elective endodontic treatment to allow additional preparation of the labial tooth surface
2) Orthodontic treatment to reduce the labial proclination of tooth 21.

The patient elected to have the orthodontic treatment. An upper removable appliance was made to correct the labial proclination of tooth 21 (Figures 15, 16). It was also necessary to reduce the labial proclination of the opposing tooth 31 (Figure 18). For
This, a lower removable appliance was made and used in conjunction with interdental stripping (Figures 19, 20). The appliances were worn for four months after which there was sufficient labial space to avoid further tooth preparation (Figure 17).

Following the orthodontic treatment removable retainers were made for the patient. The upper retainer was modified/remade as treatment continued.

The next stage involved correcting the disparity between the gingival margins of teeth 12 and 22. A simple gingivectomy was carried out to raise the gingival margin to the desired level. In order to recreate the patient’s original biologic width of 3mm, a closed curettage technique was used for bone removal (Figures 21-25). The margins of tooth 22 were repreared and the temporary crown remarginated (Figure 26).

Following three months of healing and minor refinements of the preparations and temporary crowns, the definitive impression was made. A special tray was used together with polyvinylsiloxane impression material. Heavy body material was used in the tray and light body material was syringed around the teeth (Figures 27-29).

Two Empress Esthetic crowns were made and were bonded with a resin luting cement, individually, under rubber dam. Figures 30-40 describe the cementation and finishing process.

Figures 42-45 show the finished case.
Basil Mizrahi is presenting his seminar, Predictable biomechanical and aesthetic precision, on Friday 18 September in London. To book your place, call Independent Seminars on 0800 371 652 or visit www.independentseminars.com.

Dr Mizrahi is also running a hands-on course on Advanced Anterior Aesthetic and Restorative Dentistry from January-July 2010. Please turn to our 2009/2010 Course Feature in this issue (after page 95) for the advert with further details.

Acknowledgements