

Patient celebrates finally having 'normal-looking' teeth

Manrina Rhode presents a case in which a young female had her remaining deciduous teeth bonded with composite to improve aesthetics, while retaining a natural-looking smile

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Aesthetic dentist



A 26-year-old female teacher came to see me because she had been self-conscious for several years about her visible deciduous teeth and missing permanent teeth (Figure 1). She wanted a long-term plan to achieve a more even, but natural, smile. Her regular dentist had been unsure of the treatment options.

Patient examination

The patient was missing the adult upper right and left lateral incisors, and had retained deciduous teeth B and C in both upper quadrants (Figures 2 and 3) and the upper right second molar (E). She was missing the second premolar on the lower right and left, having retained the deciduous second molar in both lower quadrants.

The upper deciduous teeth were comparatively small, making the maxillary central incisors look out of proportion (Figure 4). As they framed the anterior teeth, the impact was noticeable. The patient also had a diastema between the upper central incisors, and an upper left canine partial crossbite with the lower left premolar. There were no signs of parafunction on examination.

Treatment planning

A number of treatment options were possible. Oral hygiene and whitening were discussed with the patient, and the risks of whitening treatment on the deciduous teeth were explained. Orthodontic treatment was considered, to create better spacing and correct the upper canine crossbite (Figure 5). The option of deciduous teeth extraction was explored, followed by a denture, bridge or dental implants to replace the missing dentition.

Radiographs had revealed good root length on the deciduous teeth. Therefore, composite bonding was also contemplated, with a view to providing veneers in the longer term, after bonding was kept under review.

The patient's preference was for a quick and cost-effective plan and she was not striving for perfection. I explained that there were limitations in what could be achieved without correcting the crossbite or spacing.

She was hoping for some improvement in her smile without too much intervention and therefore dismissed the option of orthodontic treatment. Enhanced hygiene, home whitening and bonding of the deciduous teeth was chosen for the treatment plan. The patient elected to keep the upper midline diastema.

I planned to retain the patient's group function, with as little pressure as possible on the deciduous teeth moving into excursions. The gingival zeniths were not a



Figure 1: The patient was self-conscious about her visible deciduous teeth and missing permanent teeth



Figures 2 and 3: She was missing adult upper right and left lateral incisors, and had retained deciduous teeth B and C in both upper quadrants and the upper right second molar (E)



Figure 4: The upper deciduous teeth B and C were comparatively small, making the maxillary central incisors look out of proportion



Figure 5: Orthodontic treatment was considered, to create better spacing and correct the upper left canine partial crossbite with the lower left premolar

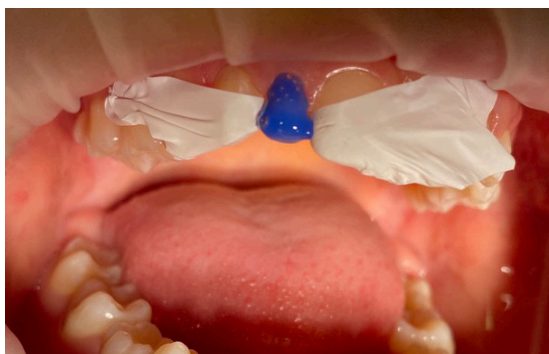


Figure 6: A light-cure, total-etch, two-component adhesive was applied with a total-etch technique



Figure 7: Bonding of the deciduous teeth was carried out using Kulzer Venus Pearl B1 shade

consideration in this case as, for this particular patient, they were not normally visible.

Tooth whitening

Impressions were taken and trays were produced by the lab for home whitening treatment. The patient was instructed to carry out home whitening for one hour a day for two weeks with Philips Zoom! Daywhite six per cent hydrogen peroxide formula. The lower 4-4 teeth and upper central incisors and permanent canines were whitened with the help of customised trays, using dots to remind the patient where the whitening gel needed to be applied. The retained baby teeth were not whitened, in particular to avoid the risk of irritation to the large deciduous pulp,

but also as they would be bonded at a later stage in the treatment programme.

Minimal tooth preparation

After two weeks, the upper baby teeth were bonded. Preparation was minimal. The smear layer was removed with a diamond polishing bur. A bevel was created at the gingival margins and taken to the interproximal margins. The bevel edges were smoothed off at the gingival margins with the polishing bur.

Polytetrafluoroethylene (PTFE) tape was used to separate the teeth and a 35% phosphoric acid etch gel was used to roughen the teeth surfaces. A light-cure, total-etch, two-component adhesive was applied with a total-

More about Manrina Rhode

Manrina has an interest in aesthetic dentistry and runs the 'Designing Smiles' smile makeover course in central London. For more details, visit www.designingsmiles.co.uk or email info@designingsmiles.co.uk. Manrina has been featured as a 'Sensodyne' dentist. In recognition of her charitable work, she was named 'Marie Claire's 21st Century Woman'. Manrina graduated from Guy's Hospital, London in 2002. Visit www.londonssmile.co.uk or email manrina.rhode@londonssmile.co.uk for more details.



Figure 8: The material is predictable and hard wearing, capable of achieving highly aesthetic results, with ease of handling and polishing



Figure 9: The restorations were completed using diamond paste



Figure 10: Achieving a highly natural effect, Venus Pearl has all the qualities I need from a composite for aesthetic bonding



Figure 11: The patient was delighted with the result, which has given her greater confidence

etch technique in accordance with the manufacturer's instructions (Figure 6).

A key consideration was the extent to which the deciduous teeth could be built up with composite, while avoiding the risk of excess pressure on them during normal function. Canine guidance also presented a challenge. The interference caused by the upper canine crossbite was mentioned once more to the patient and she was reminded about the limitations of not correcting it. However, the patient reaffirmed her decision to decline orthodontic treatment.

Predictable and hard-wearing material

The restorations were made freehand and each deciduous tooth was bonded, one at a time, using Kulzer Venus Pearl (Figure 7). I have been using Venus Pearl for composite restorations for many years. The material is predictable and hard wearing, capable of delivering highly aesthetic results, with ease of handling and polishing (Figure 8).

In this case, the dentine layer did not require building

up. The teeth were already a reasonable colour so there was no need to block any staining or discolouration. I chose the single shade Venus Pearl B1 for the shaping and layering. I generally use this shade for most of my composite bonding work where patients have undergone whitening. Finally, the restorations were shaped and polished with Sof-Lex discs and completed with diamond polishing paste (Figure 9).

Natural-looking smile with aesthetic bonding

I was very pleased with the final result. Achieving a highly natural effect, Venus Pearl has all the qualities I need from a composite for aesthetic bonding (Figure 10).

The patient had known for several years that she needed treatment on the retained baby teeth but it was a question of finding the right practice.

She was delighted with the outcome (Figure 11) and commented that finally having 'normal-looking' teeth had given her greater confidence. **D**



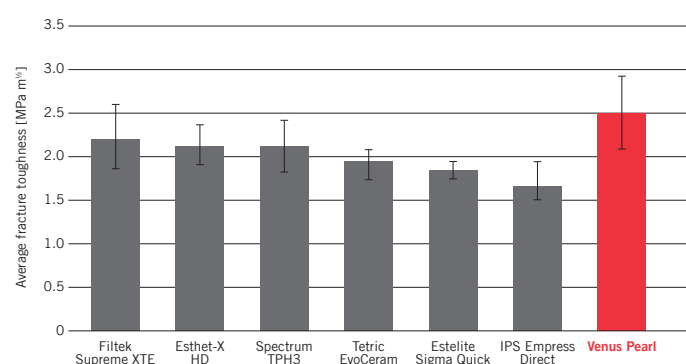
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