Implants are now considered a predictable choice to replace missing teeth; nevertheless, replacement in the aesthetic zone remains a challenge.

In addition to the challenges posed by the various clinical scenarios, our patients have high expectations; they demand optimal functional and aesthetic outcomes.

An ideal implant restoration has to re-create gingival aesthetics and, for a clinician, the pink aesthetics remain the most challenging aspect of the treatment.

In recent years, we have become more critical in objectively assessing the outcome with newer indices.

Furhauser et al (2005) recommended the ‘pink esthetic score’ (PES) as a means of objectively assessing gingival aesthetics in implant restorations, especially single tooth implants. Besides papillae, the PES combines the height, contour, colour and texture of the peri-implant soft tissues.

Achieving an ideal aesthetic outcome in implant restorations requires a meticulous approach. The different stages of treatment are important and a thorough preoperative assessment underpins the process.

To ensure an optimal outcome, the following factors are important:

- Three-dimensional surgical placement
- Aesthetic hard tissue grafting
- Careful soft tissue handling during second stage surgery

- Soft tissue sculpting with a provisional restoration
- Utilising a technique that aids creation of an optimal definitive restoration.

In this article, a clinical case illustrating replacement of a maxillary canine with a narrow diameter implant is presented in a hypodontia patient.

Clinical case

A 32-year-old male patient presented with a congenitally missing maxillary lateral incisor. Specialist orthodontic treatment had been completed elsewhere without any restorative interdisciplinary planning.

The UL3 was positioned in the UL2 space and a pontic space was present in the UL3 area (Figure 1). A diminutive right lateral incisor was present.

The overall dentition was minimally restored and the pontic space mesiodistally was adequate for a canine width tooth (Figure 2).
However, the interradicular space was limited and inadequate for replacement of this tooth with an average diameter implant, ideally suited for a canine tooth (Figure 3).

After a detailed discussion, the patient ruled out a resin-retained bridge and preferred to have the tooth replaced with a dental implant. Direct composite build-up was carried out to optimise the diminutive right lateral incisor and reshape the UL3 as the UL2.

A narrow diameter, tissue-level type, Straumann Roxolid hydrophilic implant (3.3mm diameter NNC) was placed in an ideal three-dimensional position for a screw-retained single tooth restoration. Submerged healing was allowed for six weeks followed by implant exposure surgery.

After a period of provisionalisation to allow peri-implant soft tissue moulding (Figures 4, 5 and 6), impression coping was customised to facilitate the dental technician (Figures 7 and 8) to achieve an ideal emergence in the definitive restoration (Figure 9).

Conclusion

While the success of osseointegration is now an established fact, the challenge for clinicians is to deliver restorations that aesthetically fulfil the objectives of treatment.

The clinical case demonstrates how careful assessment and treatment planning can be predictably controlled to fulfil the treatment objectives.

A narrow diameter implant was used to replace a canine, which is now feasible to do predictably with the advent of stronger dental implant materials.

Despite the non-ideal orthodontic result, the final aesthetic outcome with the dental implant and re-shaping of teeth with directly bonded composite restorations yielded a great result for this patient (Figures 10 and 11).

References

For the list of references that accompany this article, email pd@fmc.co.uk.