

Dentistry Clinical

Aesthetic zone needing augmentation

A case study in which Dr Shushil Dattani replaces a tooth with an implant-supported crown



Figure 1: Frontal view showing height and width defect



Figure 2: Right lateral view showing width defect



Figure 3: Left lateral view showing width defect

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Figure 4: Frontal block graft obtained from ramus in position

Mr W was referred to the Kent Implant Studio, wishing to replace his upper left central incisor. The patient was wearing a partial denture which he was unhappy with, but he did not like the idea of a conventional bridge.

The patient was medically fit, healthy and a non-smoker.

After discussions with the patient and the referring dentist, it was decided the tooth would be replaced with an implant-supported crown.

The buccal defect is apparent in the clinical photos. An implant without bone grafting would produce an incorrect emergence profile leading to an aesthetic compromise. There was a buccal defect apparent. The history of the tooth was a trauma incident (with a cricket bat) which led to the tooth fracturing, needing endodontic treatment around 30 years ago. The tooth subsequently needed an apicectomy. The apicected site was apparent with a soft tissue area apical of the previous tooth. Also, a buccal defect was present 12mm from the edge of the ridge. Ridge mapping clearly indicated a bony defect of at least 12mm in height.

Soft tissue analysis shows 8mm of defect at the edge of the ridge, narrowing to the shape of the previous tooth. There seemed to be a height defect buccally compared to palatally of around 2mm.

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Figure 5: Occlusal block graft obtained from ramus in position



Figure 6: Right view showing definitive restoration showing correction in height and width, and an aesthetic gingival height



Figure 7: Left view showing definitive restoration showing correction in height and width, and an aesthetic gingival height



Figure 8: Frontal view showing definitive restoration showing correction in height and width, and an aesthetic gingival height



Dr Shushil Dattani BDS, MFGDP(UK), DiplImpDent RCS (Eng) principle of the Kent Implant Studio and Kent Smile Studio in Maidstone. Shushil qualified from the Royal London in 2000. He completed a two-year programme and membership to the Faculty of General Dental Practice at the Royal College of Surgeons after this and is accredited with a Diploma in Implant Dentistry at the Royal College of Surgeons of England. He is also a member of the Association of Dental Implantologists, the American Academy of Cosmetic Dentists and regularly trains and attends courses around the world. For more information, or to refer to the Kent Implant Studio, please call 01622 671 265 or visit www.kentimplantstudio.com.

These measurements were confirmed during the reflection of the flap during surgery. If we needed an increase in width, ridge widening could be considered, but the defect on ridge mapping measures 1mm at crestal level; a difficult procedure considered in this case. Also, there seemed to be a buccal height defect, which cannot be corrected with ridge widening.

Therefore, augmentation was the proposed option. This could be either guided tissue regeneration with the use of bovine/irradiated bone or grafting procedures using intra-oral donor sites. The defect was of height and width, and a J-shaped bone graft would be of more use; therefore, the ideal site for a donor would be the ramus. As the patient is missing both his wisdom teeth, either side could be considered. As the ID canal was more clearly visible on the OPG – and identifiable throughout on the right-hand side – the right ramus was the more ideal site. A ramus graft was obtained from the right ramus as planned and positioned in the upper left central incisor area. Three months were

allowed for bone healing, and subsequently an implant of length 14mm and width 4.5mm (Ankylos B1+).

Primary stage impressions were obtained (an impression at the stage of implant placement). Six months were allowed for implant integration, and subsequently the implant was exposed using a small 'H'-shaped incision, with the incision point more palatally, thus allowing a bulking effect of the gingivae buccally.

The already-chosen abutment the correct angle (22.5 degrees) was fitted and an already constructed temporary acrylic crown was fitted. The crown was adjusted at the gingival margins so to define the final contouring of the gingivae. The final restoration was fitted after three weeks of gingival healing.

The patient was delighted with the end result, and was surprised the treatment was not painful and that he was able to fully function the next day after all the stages. The patient was returned to the referring dentist for routine care.



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