

Implant and restorative case study

Harry Shiers illustrates the restoration of a right side posterior maxilla from a failing one-piece three-unit bridge supported by three root-treated post and core restored teeth



Figure 1: DPT radiograph



Figure 2: PA radiograph

Restoration

The patient at the time of examination was a 52-year-old male doctor, traveling extensively, who presented with pain in the UR quadrant. On examination, there was a fractured bridge in the UR quadrant and a sinus adjacent to the mesio-buccal root of the UR 6. There were an array of other problems in other quadrants and these were dealt with concurrently.

There was no significant medical history. The patient was a non-smoker. The dental history revealed a bruxing habit and this was evident on the teeth and existing restorations. There was no periodontal disease or probing depths greater than 3mm. A DPT (Figure 1) and a PA radiograph (Figure 2) are shown.

The patient was sent to a specialist for an endodontic opinion on all three teeth in the upper right quadrant. The opinion was upper right 5 and upper right 6 were not salvable.

Having discussed the options with the patient the agreed treatment plan was:

1. Extraction of UR6 and UR5 after sectioning the bridge distal to UR4
2. Replace the extracted teeth with an implant-retained bridge using two implants.

Alginate impressions were made for study casts and fabrication of a surgical stent.

The UR6 and UR5 were removed with a delicate surgical technique having sectioned the bridge distal to the UR4.

The patient was reviewed one week later, healing had been uncomplicated. A pre-surgical review was carried out eight weeks later. The soft tissue over the sockets had healed and matured. One PA radiograph was taken of the socket sites and the implant type and lengths selected (Figure 3).

2 Astra Osseospeed implants were used:



Figure 3a: Socket sites and the implant type and lengths selected

- i) One 4mm diameter by 15mm ST for the UR5 site
- ii) One 4mm diameter by 11mm ST for the UR6 site.

The 15mm ST was placed at 30Ncms, the 11mm ST was placed at 40Ncms. 3.0 grammes of Amoxicillin were administered at surgery.

After four months a second stage surgical was performed and 3.0mm Zebra healing abutments fitted into both implants two Vicryl sutures were placed. The patient returned for suture removal one week later. (Figure 4) demonstrates a radiograph taken at this visit (Figure 5) shows the zebra healing abutments.

After a further six weeks a head of implant pick up impression was made using a poly-ether impression material in a plastic stock tray. The impression copings were checked for stability, and then packed with the appropriate replicas prior to collection. The laboratory was asked to fabricate a screw-retained bridge.

Two weeks later the healing abutments

Harry RBP Shiers BDS, MSc (implant dentistry), MGDS, MFDS, took his initial training in implant dentistry in 1989 with the Institut Straumann. He spent a year teaching undergraduates at The London Dental Hospital and since then he has spent a year at the Eastman Dental Institute studying implants prior to completing the two-year part time Master of Science in implant dentistry at Guy's Hospital, London. He currently runs the Implant Referral Centre in the west end of London where he places implants for referring GDPs. Harry lectures extensively on implant dentistry throughout the UK and sits on the editorial advisory boards of numerous dental publications, including this journal.

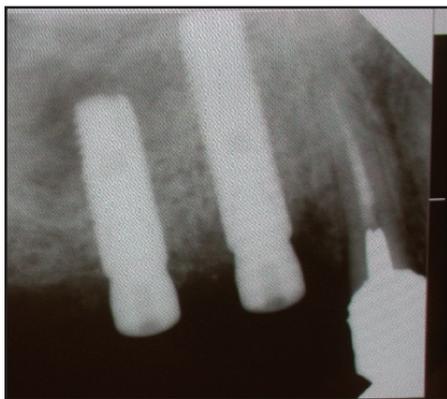


Figure 4: a radiograph taken at this visit (four-month second surgical stage)



Figure 5: Zebra healing abutments at the four-month second surgical stage



Figure 6: An occlusal view - mirrored

were replaced with two Astra 20 degree taper uni-abutments and a screw-retained bridge was fitted.

The occlusion was checked initially with 20-micron articulating paper and then with Schimstock. The screw holes were filled with Cavit after protecting the screw heads with cotton wool. (Figure 6) shows an occlusal view and (Figure 7) shows a buccal view. A PA radiograph was taken using a guiding device (Figure 8) to act as a baseline radiograph and the patient was asked to return for review in two weeks.

The patient returned two weeks later to check the screws. These were satisfactory and the occlusion was re-checked.

Impressions were made for construction of an occlusal splint, which the patient was instructed to wear every night after the fit appointment.

(Figures 9 and 10) demonstrate PA radiographs taken at nine months and 22 months post-operatively. The treatment for further restorative work in other quadrants of the mouth is still ongoing, however the travel schedule of the patient has not permitted all the required work to be finished.



Figure 7: A buccal view



Figure 8: PA radiograph was taken using a guiding device to act as a baseline radiograph



Figure 9 & 10: PA radiographs taken at nine months and 22 months post-operatively