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Dr Zakri Kanaan argues the case that when it comes to implants, treatment should be kept as simple as possible.

Two old adages go that if 10 dentists were to treatment plan a case you will get as many varying opinions. There is nothing wrong with this for simple general restorative cases, but when planning for implants, it is wise to opt for the simple option. The following case highlights the point that proceeding with a more complex treatment plan may have been a poor final result, as well as an unpredictable long term prognosis and outcome for a young patient.

History and Presenting Complaint

This young gentleman presented to me for a second opinion, after being recommended by a hygienist. She was concerned about, what she felt was a suboptimal treatment plan that was recommended to her son by another respected dental centre.

Her son, a student on his gap year, had lost his upper right lateral incisor 10 months earlier through a skiing accident. A provisional acrylic crown was bonded to adjacent teeth as an emergency measure and the centrals were splinted at this visit (Fig. 1, 2, 3, 4). The upper centrals were also traumatized during the accident, with periapical radiographs exhibiting signs of horizontal fracture lines at various levels (Fig. 5). The upper right lateral and central also had been root treated shortly after the accident and all teeth have been symptomless since.

Treatment Plan by Another Dental Centre

The initial suggested treatment plan included the extraction of the upper right lateral and central incisors and the upper left central incisor, with the provision of an immediate partial acrylic denture. This would have been followed by the placement of an implant supported bridge with implants in the upper right lateral incisor and upper left central incisor positions. Although this is a viable option, it would have lead to the extraction of 3 important teeth in the smile zone of this young gentleman. This treatment plan had been accepted by the young gentleman and his parents but unfortunately, due to a waiting list for the implant phase of treatment, this treatment plan had still not been carried out.

My Proposed Treatment Plan

To view the fact that the traumatized centrals have been asymptomatic, with no apical changes since the accident, I suggested leaving the centrals alone with no treatment initially. I recommended the extraction of the upper right lateral incisor, with the immediate placement of an implant. A provisional tooth would have been provided. A final abutment and porcelain crown would then be fitted after the healing phase. It is important to inform the patient that further treatment may well be required on the central incisors. Staging the treatment in this way will minimize the risk of losing soft tissue architecture. This treatment plan was accepted.

Surgical Phase

The patient attended for treatment and was given an Arnica 200c pillule (a small succus pillule, coated with the remedy) to take preoperatively. Arnica is a homeopathic remedy that I routinely use for all elective surgical procedures. It has been shown to help reduce bruising and swelling associated with surgery and I have noticed a marked difference in both patient reported symptoms, as well as clinical symptoms, including the speed of healing. A 50 second Chlorhexidine pre-surgical rinse was carried out prior to administration of local infiltration anaesthesia. A flapless surgical technique was carried out using periotomes, with special attention to the buccal plate. The result was a nice instrument to do this with is the AstraTech™ measurement gauge. It has a blunt, hemispherical spherical end, which gives good tactile feedback and can also be used to measure the length of the socket. It can also be used to give visual feedback on the direction of the imminent osteotomy site preparation. Socket curettage was carried out to ensure it is free from any granulation tissue. The buccal plate, although thin proved to be intact and ended approximately 3mm below the labial gingival level. The initial pilot drill used was positioned with a slight palatal inclination and position to the previous root apex, to avoid perforating the labial gingival level. The site was prepared using a standard sequence and saline, with special attention to avoid the thin buccal plate of bone during preparation. A 3.5 x 10mm NobelReplace Tapered Groovy implant was torqued into position with an initial stability of 20Ncm and ensuring that a tri-channel inner hole is positioned mid-buccally. The initial stability of 20Ncm is not enough to immediately restore an implant. If immediate loading has been planned, you should always have a contingency plan of good primary stability of the implant is not achieved. The implant head was placed 5mm apical from the anticipated final labial gingival margin (adjacent den- tousing levels can also be used as a guide if needed). There was a 2.5mm space between the buccal plate and the implant. A narrow healing abutment was placed and the void was filled with a mixture of BioOss™ (Geistlich) and autogenous bone harvested with an AstraTech™ Bone Trap. It was decided best to use a goldadapt abutment. This was covered with a layer of opaque porcelain to help mask any possible metal shine through as much as possible. This was torqued down to 25Ncm and the access filled with GP and Syntemp provisional composite. It was also decided to make a Lava crown with an opaque core (3M ESPE). The Lava crown was tried in and approved by the patient for shade and a digital impression for comparison (Fig. 7) and a discussion with the patient about whether to copy this tooth needs to be communicated with the lab, especially if there are any unusual characteristics. In this case the upper lateral had a mesio-buccal rotation and the patient wanted a slight element of rotation with his new tooth. Due to the depth of the implant head it was decided best to use a goldadapt abutment. This was covered with a layer of opaque porcelain to help mask any possible metal shine through as much as possible. This was torqued down to 20Ncm and the access filled with GP and Syntemp provisional composite. It was also decided to make a Lava crown with an opaque core (3M ESPE). The Lava crown was tried in and approved by the patient for shade and form before being cemented with temporary cement.

Restorative Phase

12 weeks later, open tray impressions were taken and custom shade matching was carried out. It is important to take a photo of the contralateral tooth for comparison (Fig. 7) and a discussion with the patient about whether to copy this tooth needs to be communicated with the lab, especially if there are any unusual characteristics. In this case the upper lateral had a mesio-buccal rotation and the patient wanted a slight element of rotation with his new tooth. Due to the depth of the implant head it was decided best to use a goldadapt abutment. This was covered with a layer of opaque porcelain to help mask any possible metal shine through as much as possible. This was torqued down to 20Ncm and the access filled with GP and Syntemp provisional composite. It was also decided to make a Lava crown with an opaque core (3M ESPE). The Lava crown was tried in and approved by the patient for shade and form before being cemented with temporary cement.

The patient attended for treatment, this treatment plan had been accepted by the patient for shade and form before being cemented with temporary cement.

It is often the case that the embrasure between a canine and a new crown is increased, as it was here (Fig. 9). This can easily be remedied by bonding some composite to the mesial of the canine, as was done in this case, which reduces the embrasure giving a more aesthetic result, which was to the patient’s satisfaction (Fig. 10).

It is always advisable in aesthetic situations such as this, to condition the tissues by providing...