Case Report

Tooth replantation after traumatic avulsion: a 27-year follow up

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Abstract — This report presents a case of replantation of a traumatically avulsed central incisor in a 32-year-old woman. The tooth was replanted after a 30-min extra-alveolar period. Emergency unconventional immobilization was performed, using 2–0 chromic gut, and a restorative composite made Gunning-type splint. The tooth is still in place 27 years after replantation (1976 to date) without marked resorption.

The preferable management for the avulsed tooth is immediate replantation, replantation within 20-30 min after injury or keeping in storage media until the patient can be seen by a dentist (1-3). Most of the reports of replantations with a favourable outcome refers to children and adolescent patients (4-6). Reports of cases of successful replantation and longterm follow up in adults are uncommon in the literature (7).

Case report

A 32-year-old woman suffered a domestic accident and had her right central incisor avulsed (May 1976). Immediately, she drove to a public health service near her home, keeping the avulsed tooth in a glass with cold water. After 10 min, she received first care from the Service staff. The patient was calm and lucid, and a rapid examination and medical history revealed no other problems. Oral examination revealed an empty alveolus (tooth 11) filled with blood clot, several gingival lacerations and no alterations in the position of the other incisors (Fig. 1).

The attendant dentist (W.D.M.) coincidentally was a trained Oral and Maxillofacial Surgeon, but the dental clinical facilities were not adequate to oral surgery procedures. Adequate materials for dental immobilization, like surgical wires or acrylic resin, were not available.

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The patient was immediately anaesthetized, the alveolus was washed with saline solution and the tooth (Fig. 2) was replanted (less than 30 min after avulsion). The gingival lacerations were repaired with 2–0 chromic gut. The sutures were extended to encircle the reimplanted tooth and the other incisors, trying to mimic a wire fixation (Fig. 3). Rigid immobilization was achieved by constructing a Gunning-type splint



Fig. 1. Oral aspect.



Fig. 2. Avulsed tooth.

using a two paste dental restorative composite (Fig. 4). A periapical X-ray was taken (Fig. 5). After 30 days, the immobilization was removed and the tooth was endodontically treated (Fig. 6). The clinical aspect is shown in Fig. 7. The tooth was radiographically and clinically examined every 6 months, and yearly, after the first year (Figs. 8–14). By the 10th year, a prosthetic rehabilitation was performed (Fig. 11).

Discussion

The favourable outcome of this case of dental replantation in an adult patient could be mainly related to



Fig. 3. Tooth replanted and encircled by 2-0 chromic gut.



Fig. 4. Gunning-type splint.

the short extra-alveolar period. Other favourable events could be the fact that the patient kept herself calm, had stored the tooth in cold water (from the refrigerator) and immediately looked for help. In spite of the poor conditions of the dental facilities for more sophisticated Oral Surgery procedures, a creative solution was found, using 2–0 chromic gut and a dental restorative composite for the construction of a Gunning-type splint.



Fig. 5. Radiograph of the replanted tooth.

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Fig. 6. Radiograph after 30 days.



Fig. 8. Radiograph after 6 months.



Fig. 7. Clinical aspect after 30 days.



Fig. 9. Radiograph after 1 year.



Fig. 10. Radiograph after 10 years.



Fig. 12. Radiograph after 15 years.



Fig. 11. Clinical aspect after 10 years.



Fig. 13. Radiograph after 20 years.

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Fig. 14. Radiograph after 27 years.

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