CASE REPORT

Bizarre cause for avulsion of permanent maxillary lateral incisor tooth

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SUMMARY

A 9-year-old boy presented with a missing upper front tooth after an accident involving kite flying. Diagnosis of avulsion of the upper right lateral incisor (22) was made after examination of his socket as well as by radiological investigations. A removable partial denture was given for the aesthetic purpose. The patient is under follow-up. The present case illustrates the management of avulsion.

BACKGROUND

Traumatic injuries are very common in people of younger age, especially in children between 8 and 11 years old. Maxillary central incisors are the most commonly injured teeth, followed by the maxillary lateral incisors and the mandibular incisors. Males experience significantly more dental trauma to the permanent dentition than females.¹ Since most avulsions occur before the patient's facial growth is completed, it is critical to maintain the tooth and surrounding bone until the completion of craniofacial growth, in these cases a relatively uncomplicated 'permanent' restoration can be made.²

We present this paper because of the bizarre and unique cause for the avulsion of the permanent maxillary lateral incisor in this case, as well as to bring knowledge to the general readers that trauma to the teeth because of common kite flying thread can lead to disastrous effect on the permanent teeth of the child as well as psychologically effects.

CASE PRESENTATION

A 9-year-old boy accompanied by his father reported to the department with a missing upper front teeth. The patient gave a history of tooth loss 1 month prior due to entanglement of the (surti manja) (figure 1), the popular kite flying thread in India, to the teeth while flying the kite, as a result the tooth came out of socket and flew out into the air along with the kite since the wind speed was very high; consequently, the tooth could not be retrieved. The bleeding from the socket was stopped by the patient himself by applying pressure.

His medical, dental and family history was unremarkable in relation to the missing permanent upper right lateral incisor. On intraoral examination, we found that permanent upper lateral incisor was avulsed from its socket (figure 2) and the wound was healed. The child was in mixed dentition period. The occlusion on the left (figure 3) and the right (figure 4) side did not revealed any disocclusion due to trauma.

Figure 1 Surti manja the kite flying thread.

INVESTIGATIONS

An intraoral periapical radiograph not only ruled out root pieces in the alveolar socket but also confirmed the avulsion (figure 5).

TREATMENT

The child was very concerned about his aesthetics, a removable partial denture with the single tooth prosthesis was given with respect to 22 (figure 6) since the child was 9 years old.

OUTCOME AND FOLLOW-UP

The patient is currently under follow-up.

DISCUSSION

Avulsion usually occurs in children between 7 and 9 years of age, during which the periodontal ligament structure is loose and low mineralised bone that surround erupting teeth provide only minimal resistance to an extrusive force.³ Traumatic injury to the teeth is more common in males as compared to females. Surti manja is famous all over India; it

Figure 2 Extraoral photograph.

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Figure 3 Occlusion of the left side.

is a kite flying thread composed of finely powdered glass, industrial adhesive such as Vajram', maida flour, aluminium oxide and zirconia alumina that acts as an abrasive and as the colouring agent.

Although causes for avulsion have been mentioned in literature before from causes like getting kicked by a horse, fighting epileptic episode, criminal act, impact of a metal object to the orofacial region,⁴ but tooth avulsion due to kite flying thread have not been reported. In cases, where the patient could not locate the tooth after an avulsion injury, replacement of the tooth has been conducted with a removable partial denture which is what we prescribed in this case.⁵ Since the patient was very worried about the aesthetics, a removable appliance was advocated at the earliest time.

A removable partial prosthesis is a versatile, cost effective and reversible treatment for partially edentulous patients at any age.⁶ The objectives of removable partial prosthesis design have been well established that includes function restoration, enhancement of aesthetics and, most importantly, the preservation of the remaining teeth and periodontal structures.⁷ The presence of sound abutment teeth appears to encourage the use of removable partial dentures, as the fixed partial denture alternative requires sacrifice of healthy hard tissues. When economic factors influence the decision-making process, removable partial

Figure 5 Intraoral periapical radiograph confirming avulsion.

dentures are often chosen.⁸ A removable partial denture seems to be a very good option for the immediate rehabilitation of aesthetics and function, even in non-complying patients.

Learning points

- ▶ Avulsed permanent teeth should be reimplanted immediately by the first capable person.
- ▶ If immediate replantation is impossible, the tooth should be stored in cold milk or in a cup with the child's saliva.
- ▶ Tooth should not be stored in the tap water because of its low osmolality causes the cells to rupture within minutes.

Figure 4 Occlusion of the right side.

Figure 6 Removable partial denture with single tooth prosthesis of 22.

Contributors SK drafted and contributed to the writing the manuscript, analysed the patient's history. SDB also drafted the manuscript, analysed the patient's history and approved the final report. SS contributed to the fabrication of removable partial denture; SLS contributed to the fabrication and manuscript preparation.

Competing interests None.

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