Rotational Luxation Injury in a Permanent Maxillary Central Incisor

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An 8-year-old boy was brought to the Dental Clinic 2 days after a road traffic accident with complaint of pain in the upper teeth. Initially, the child was given first aid and sent home as there were no significant injuries to the body. No dental treatment was given at that time. At present, the upper lip was swollen. Intra-oral examination revealed mixed dentition, with 52 exfoliated and 62 missing. 11 was found to have a luxation injury where in the entire crown had rotated 180° (Figure 1) and 21 was unerupted. Intraoral periapical radiograph of 11 and 21 (Figure 2) showed only two-thirds of root formation. The diagnosis given was luxation injury with the rotation of 11 and avulsion of 62. After administering 2% lignocaine with adrenaline, 11 was de-rotated gently with upper anterior extraction forceps and restored to original position. A semi-rigid fixation was done with braided ligature wire and composite, from 54 to 64. Occlusion was checked, and the child was advised soft, semi-solid diet for a week. At 2 weeks recall, 11 was found to be stable, and the fixation was removed. 6 months recall revealed a normal 11 and erupted 21 (Figure 3). In the classification of traumatic dental injuries, six types of luxation injuries are described1 without any mention of rotational luxation. In children below 12 years, concussion.

Figure 1: Rotation of 11

Figure 2: Intraoral periapical 11, 21

Figure 3: (a and b) 6 months recall and intraoral periapical

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and subluxation are encountered more while lateral luxation and avulsion are more prevalent in older children.\(^2\)

The extent of damage to teeth and supporting structures following dental trauma is determined by the energy and direction of impact, and by the resilience of the supporting tissues. The severity of the trauma is also determined by how short the root is.\(^2\) So, far in literature no case has been reported of a 180° rotation of the tooth following trauma.

**Points to Ponder**

- There are six types of luxation injuries; however, rotation of a single-rooted tooth due to the impact of trauma is also a possibility.
- The resilience of bone and supporting tissues in children can affect the outcome of impact after trauma.

**REFERENCES**


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