

Dental trauma of permanent incisor teeth in children/ Kirkuk city

Maha Isam Abdulazeez¹, Anas Qahtan Hamdi², Haitham Younis Mohammed³, Mohammed Ahmed Mustafa⁴

^{1,2,3}College of dentistry, Tikrit University

⁴University of Samarra, College of Applied science, pathological Analysis

Abstract

The aim of present study to demonstrate traumatic dental injuries in the permanent incisor teeth among 8-12 years old children treated in Al-Salam Health Center - Specialist Dental Center/ Kirkuk city. 387 children were reviewed and only patients with traumatic dental injuries were taken. Type of tooth injury was classified according to modified Ellis and Davey crown fracture. Data on age, gender, number of injured teeth and type of injury were also collected from the dental records for the period 20018-2019. Records of 387 examined children showed that the traumatic dental injury was 8% (31). Of those 84 patients, 67.7% (21) were boys and 32.3% (10). Single tooth injury was found in 77.4% of the cases, while 22.6% had two teeth injury. The most frequent injuries were class II crown fracture (48.5%; N=15), followed by class III (35.5% N=10), class IV (9.6% N=3) and class I (6.4% N=2) respectively. It's concluded from present study that the prevalence of dental trauma is relatively low in Kirkuk city.

Keywords: permanent incisor teeth; dental trauma; crown fracture.

INTRODUCTION

Injuries of oral are the most fourth of the body injuries among 7-30 years old [1]. Over three quarters of all traumatic injuries of oral happen in early years of life [2]. Dental trauma injures always include teeth of upper anterior and therefore can have a significant effect on aesthetics of facial and dental. This considerably coincides with adolescence and can have a considerable effect for certain children on their life type [3]. causing factors for injuries of traumatic dental contain physical features like increased the incisal over jet, protrusion and incompetence of lip [4-7]. A larger part of injuries of traumatic dental include only one tooth (permanent) and the most often affected are incisors of maxillary central [8-9]. trauma etiology can be classified into: (1) violence of domestic -neglect of child. (2) Sporting effectiveness-riding of bicycle or horse. (3) different accidents of road and children of handicapped [10-11]. school and home are areas where injuries of traumatic dental happen. It has been shown that the injury place was associated with gender, i.e. the most common injury place for boys was firstly school and then home, while for girls (female) this was vice versa [12-14]. So, the aim of the present study

was to demonstrate traumatic dental injuries in the permanent incisor teeth among 8-12 years old children in Kirkuk city.

MATERIALS AND METHODS

- ❖ A sample of 387 school children (boys and girls) aged 8-12-year-old were chosen from various primary schools in Kirkuk city and the survey was occurred during the time between the beginning of at May 2018 and the end of December 2019. All children (boys and girls) with fracture of dental crown were chosen in the study. injury of traumatic dental was categorized according to modified Ellis and Davey [15] of fracture of crown which include:
- ❖ Class I—Simple crown fracture including little or no dentin.
- ❖ Class II—Extensive crown fracture including considerable amount of dentin but not the dental pulp.
- ❖ Class III—Extensive crown fracture including exposure of the dental pulp.
- ❖ Class IV—entire crown loss.

Dental trauma of permanent incisor teeth in children/ Kirkuk city

Data on age, gender, number of injured teeth and type of injury were also collected from the dental records.

RESULTS

From 387 dental records, the traumatic dental injury was 8% (31). Of those 84 patients, 67.7% (21) were boys and

Table 1. Number of injured permanent incisor teeth per patient.

No. of injured teeth	Boys	Girls	Total
1	19 (79.2%)	5 (20.8%)	24 (77.4%)
2	2 (28.6%)	5 (71.4%)	7 (22.6%)
Total	21 (67.7%)	10 (32.3%)	31 (100%)

Table 2. Number of injured permanent incisor teeth according to the type of crown fracture.

No. of injured teeth	No. of teeth	Percentage (%)
Class I	2	6.4%
Class II	15	48.5%
Class III	10	35.5%
Class IV	3	9.6%

DISCUSSION

From 387 dental records, injury of traumatic dental about 8% (31). The rate of trauma among boys (male) was reported to be more than girls (female) who come to the clinic with injuries of dental. This might be associated to their inclination to be more active and more probable to participate in sport games [16]. many studies have referred that boys sufferening injuries of dental at least twice as oft en as girls. The boys:girls percent different from 1.5:1.0 to 2.5:1.0 [17-19]. Whereas girls was more mature in their behavior and may be more interested about their appearance which probably reflects the play features of girls toward more stability than boys, as well as one can assume that mother were more concerned about the esthetic of their female daughters than males, seeking dental treatment quickly after injuries [20]. About age average that used in this study, Eyuboglu et al. referred that the highest distribution of injuries of traumatic dental at the age 8-10 [21]. outcome of the present study showed that the prevalence of traumatized children was found to be more with class II malocclusion (48.5%) compared to other type of occlusion. These results were closely similar to those recorded by other studies [22-23].

REFERENCE

- Al-Assadi, A. H.M.J. (2010). Traumatic dental injuries of the permanent incisors and its relation to malocclusion in patients attending the pedodontic clinic in College of Dentistry, Baghdad University. *J. Mustansiria Den.* 1(1): 63-70.
- Peter F D. and Sophy K B. (2011). Review of the Dental Trauma Guide; An interactive guide to evidence-based trauma management. *Evidence-based dentistry* 12(4):117-20.
- Rodd HD.; Barker C.; Baker SR.; Marshman Z. and Robinson PG. (2010). Social judgements made by children in relation to visible incisor trauma. *Dent Traumatol.* 26: 2-8.
- Marcenes W. and Murray S. (2001). Social deprivation and dental injuries among 14-year-old school children in Newham, London. *Dent Traumatol.* 17:17-21.
- Olivera LB.; Marcenes W.; ArdenghiTM.;Sheiham A. and Boneker M. (2007). Traumatic dental injuries and associated factors among Brazilian preschool children. *Dent Traumatol.* 23:76-81.

32.3% (10). Single tooth injury was found in 77.4% of the cases, while 22.6% had two teeth injury as shown in table (1). The most frequent injuries were class II crown fracture (48.5%; N=15), followed by class III (35.5% N=10), class IV (9.6% N=3) and class I (6.4% N=2) respectively as shown in table (2).

- Al-Hayali (1998). Traumatized anterior teeth among 4-15-year-old in the central region of Iraq. Master thesis, University of Baghdad, Iraq.
- Shulman JD. and Peterson J. (2004). The association between incisor trauma and occlusal characteristics in individuals 8-50 years of age. *Dent Traumatol.* 20(2):67-72.
- Tovo MF.; dos Santos PR.; Kramer PF.; Feldens CA. and Sari GT. (2004). Prevalence of crown fractures in 8-10 years old schoolchildren in Canoas, Brazil. *Dent Traumatol.* 20:251-4.
- Rajab LD. (2004). Traumatic dental injuries in children presenting for treatment at the Department of Pediatric Dentistry, Faculty of Dentistry, University of Jordan, 1997-2000. *Dent Traumatol.* 19:6- 11.
- Rao A. (2008). Principle and practice of pedodontics. 2nd ed. New Delhi.
- Welbury RR. and Whitworth JM. (2005). Traumatic injuries to the teeth. In: Richard R, Welbury R, Monty S, Duggal and Marietherese H. *Pediatric dentistry.* 3rd ed. Oxford University Press, USA. 12:259-93.
- BendoCB.; Paiva SM.; Oliveira AC.; Goursand D.; Torres CS. and Pordeus IA. (2010). Prevalence and associated factors of traumatic dental injuries in Brazilian schoolchildren. *J Public Health Dent.* 70:313-8.
- Noori AJ, Al-Obaidi WA. (2009). Traumatic dental injuries among primary school children in Sulaimani city, Iraq. *Dent Traumatol.* 25:442-6.
- FakhruddinKS.; Lawrence HP.; Kenny DJ and Locker D. (2008). Etiology and environment of dental injuries in 12- to 14-year-old Ontario schoolchildren. *Dent Traumatol.* 24:305-8.
- Ellis RG. and Davey KW. (1970). the classification and treatment of injuries to the teeth of children, 5 ed, Chicago, Mosby.
- Mohammed LJ. Evaluation of the complications due to delayed management of trauma to anterior teeth. *J Coll Dent* 2005;17(2):93-96.
- Lam R.; Abbott P.; Lloyd C.; Lloyd C.; Kruger E. and Tennant M. (2008). Dental trauma in an Australian rural centre. *Dent Traumatol.* 24:663-70.
- Díaz JA.; Bustos L.; Brandt AC. and Fernández BE. (2010). Dental injuries among children and adolescence aged 1-15 years attending to public hospital in Temuco, Chile. *Dent Traumatol.* 26:254-61.
- Naidoo S.; Sheiham A. and Tsakos G. (2009). Traumatic dental injuries of permanent incisors in 11- to 13-year-old South African schoolchildren. *Dent Traumatol.* 25:224-8.
- Hassan F. and Ahlam T. (2014). Traumatized Anterior Teeth among 13-14 Years Old Intermediate School Students in Hilla City, Babylon Governorate- Iraq. *Iraqi Dental J.* 36 (1): 14-19.
- Eyuboglu O.; Yilmaz Y.; Zehir C and Sahin H. (2009). A 6-year investigation into types of dental trauma

Dental trauma of permanent incisor teeth in children/ Kirkuk city

- treated in a paediatric dentistry clinic in Eastern Anatolia Region, Turkey. *Dent Traumatol.* 25:110-114.
22. Al-Kassab AG. (2005). Evaluation of primary school students with traumatized anterior permanent incisors in relation to different variables. Mosul city. MSc thesis submitted to college of Dentistry, University of Baghdad.
23. Noori A.J. (2007). Prevalence and pattern of traumatic dental injuries among primary school children in Sulaimani city. MSc thesis submitted to the college of Dentistry, University of Baghdad.