ORIGINAL ARTICLE

DENTAL TRAUMA LEADING TO PERIODONTALLY COMPROMISED TEETH OF YOUNG BOYS IN LAHORE

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ABSTRACT

Traumatic dental injuries are emergencies that must be treated promptly. These injuries are common among children; with the maxillary anterior teeth being usually affected causing functional and esthetic problems. Consequences of dental trauma include, speech defects, pulp necrosis, apical radiolucencies, partial or total pulp calcification, root resorption and marginal periodontal bone loss and the possibility that trauma from occlusion might contribute to the pathogenesis of periodontal disease. This study focused on the periodontal health of traumatized teeth of young boys from schools in Lahore (n=449). The students were examined by six calibrated dentists in natural light, with the student sitting on a chair using dental examination kit (dental mirror & probe). Findings were recorded on a WHO oral assessment form for CPITN and dental trauma index.

The study reported a mean CPITN 2.42 ± 0.78 and mean dental trauma index 2.10 ± 0.71. The average age of the sample was 12 ± 1.92. The sample also highlighted that 31% developed post trauma pocket. The results showed that only 11% (50) of the sample received treatment for trauma.

Key Words: *Dental trauma, dentition, periodontal health, oral health examination.*

INTRODUCTION

Traumatic dental injuries are emergencies that must be treated promptly and properly in order to reduce the suffering, cost and time for patients and health care providers.[1] These kind of dental traumatic injuries generally cause the loss of whole or a part of tooth structure.[2] These injuries are common among children; with the maxillary anterior teeth being usually affected causing functional and esthetic problems. Some probable consequences of dental trauma could be misshaping, speech defects, pulp necrosis, apical radiolucencies, partial or total pulp calcification, root resorption and marginal periodontal bone loss.[2-4] In some conditions the displacement of the teeth or tooth loss may even occur.[5]

Al Nazhan et al (1995) in his study highlighted the complications arising from delayed management of traumatized permanent teeth.[6] Majority of the patients delayed the treatment for more than a month which caused the fracture involving both enamel and dentin, to have a pulpal necrosis in 53% of the individuals.

Robertson et al (2000) stated that pulp healing was related to the following clinical factors: stage of root development at the time of injury, associated damage to the periodontium at the time of injury (luxation) and the time interval between injury and the initial treatment.[7]

Considerable energy has been directed at trying to determine the answer to these questions, because of the possibility that trauma from occlusion might contribute to the pathogenesis of periodontal disease.[8] This study focused on the periodontal health of traumatized teeth of young boys from schools in Lahore.

METHODOLOGY

This is a cross sectional study, conducted in 10 Garrison schools. The sample consisted of 449 boys ranging from 3 years to 17 years of age. This study focused on the periodontal health of traumatic teeth of young boys from schools in Lahore, Pakistan. All boys with a history of dental trauma with in the past 1 year were selected. The epidemiologic data was collected

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from 10 primary and secondary schools. Research permission was granted from the Institutional Review Committee at the Institute of Dentistry, CMH Lahore Medical College and from the parents of the students who gave consent of their child to be part of the study. The students were checked by six calibrated examiners under natural light, with the student sitting on a chair using dental examination kit (dental mirror & probe). Information was recorded on a WHO oral assessment form for CPITN and dental trauma index.[9] Data analysis was performed on SPSS version 23 (IBM).

RESULTS

The sample consisted of 449 boys ranging from 3 years to 17 years of age and the average age was 12 years ± 1.92. CPITN had a mean value of 2.42 ± 0.78. Fig 1 shows the frequency of trauma among the sample. It was seen that 340 students had enamel fractured after trauma. Fig 2 shows frequency of CPITN. It was seen that 74 students had pockets between 3.5-5.5mm and 65 students had pockets greater than 6mm.

TABLE 1: SHOWS AVERAGE OF AGE, TRAUMA AND CPITN

	Age	Trauma	CPITN
Mean	12	2.10	2.42
Std. Deviation	1.92	0.71	0.78

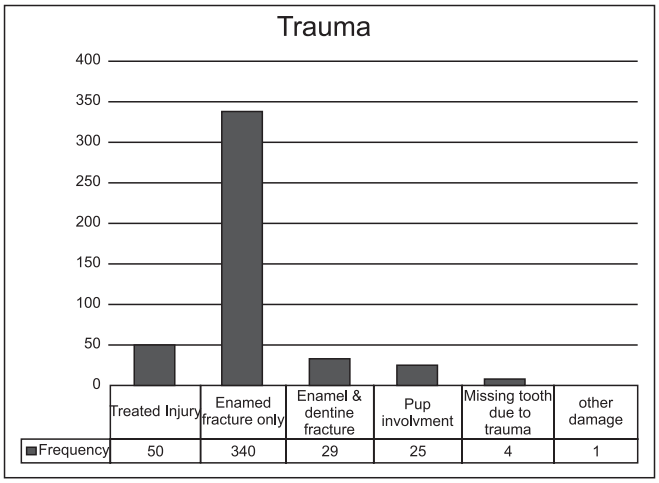

Fig 1: Frequency of trauma

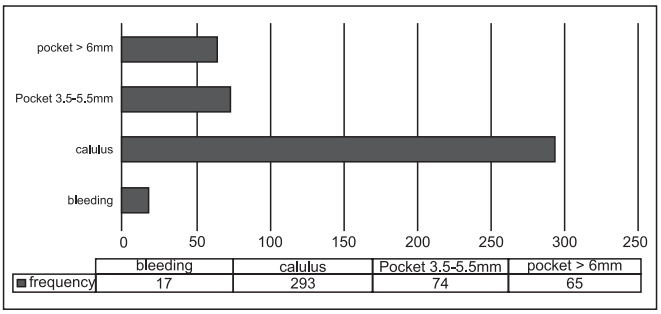

Fig 2: Frequency of CPITN

DISCUSSION

Occlusal trauma has been defined as 'injury to the periodontium resulting from occlusal forces which exceed the reparative capacity of the attachment apparatus': i.e. the tissue injury occurs because the periodontium is unable to cope with the increased stresses it experiences.[8]

This study shows that 340 students had enamel fracture, which accounts for almost 76% of the sample size. A study conducted in Lahore suggested the same results.[10] These traumatized teeth ought to be treated and could be spared from any further complications.[5] The results highlight that only 11% (50) of the sample received treatment for trauma. This is a very low number for a sample average age of 12 years.

The study also sheds light on the periodontal aspect of the traumatized teeth. It was seen that 65% of the sample had calculus present, which could be a consequence of malalignment of the tooth after the traumatic injury.[11,12] The students were explained proper brushing technique so as to decrease further deposition of plaque and calculus. The students were also instructed to get calculus removed from a professional. The sustained calculus presence alone would be responsible for deterioration of periodontal health.

The sample also highlighted that 31% developed post trauma pocket. Care was taken by the examiner not to confuse traumatic injury pocketing with false pocketing present in mixed dentition due to erupting teeth. These pockets if not treated on time would lead to bleeding gingiva, calculus deposition, deeper pockets, alveolar bone loss, increase in mobility and ultimately loss of teeth.

RECOMMENDATION

1 Education of students and parents for a routine checkups with the dentist.

2 Awareness of students and parents to visit the dentist as soon as a traumatic injury happens so as to timely diagnose and increase the chances of prognosis.

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