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### *Primary teeth trauma*

The research was carried out on 59 children patients enlisted in the Department of Paediatric Dentistry, Medical University of Lublin in the years of 1999–2002 because of the injuries of their milk teeth. The study covered 76 teeth in all. The age of the patients was between six months and five and a half years. The cause of the injury, the type of the injury, the percentage signifying the attendance to control visits, the sex of the child, the family environment, the time that elapsed from the injury till the moment of a control visit that decided about the treatment method, were all studied.

### RESULTS

We observed that in the group of our patients, whose age was between six months and five and a half years, most injuries occurred between the 1<sup>st</sup> and the 2<sup>nd</sup> years of life (Fig. 1). This is connected with the fact of learning to walk and that was most often cited in the interview with the parents as the cause (Fig. 2). In later stages of life the injuries occur most often while playing. In all cases the injury affected incisor teeth, and in 94% these were the jaw teeth (Fig. 3). The injuries were more common with boys (Fig. 4). The majority of our patients were from the city (Fig. 5). The most common type of the injury was partial dislocation (51%), fracture of the tooth crown with pulp denudation (26%), fracture of the tooth crown without pulp denudation (16.7%), impaction (13.8%), breakage (2.8%), extrusion (2.8%), transversal fracture of the root (1.4%) – Fig. 6.

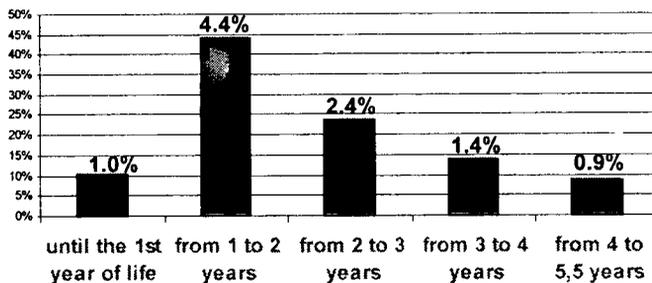


Fig. 1. The child's age the moment of injury

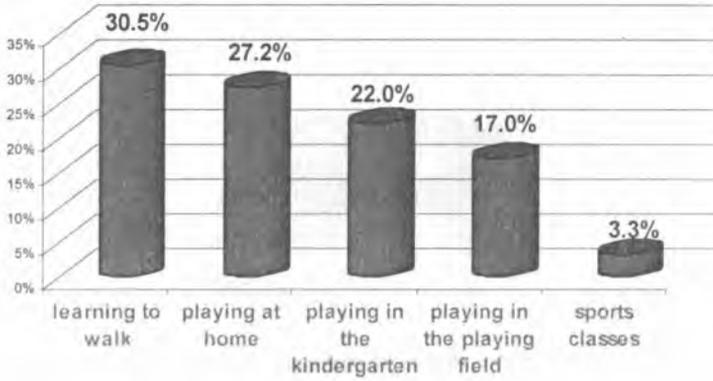


Fig. 2. Causes of teeth injuries



Fig. 3. The division into injuries of the jaw and mandible

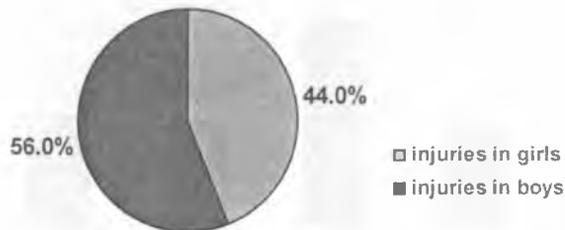


Fig. 4. Divisions according to sex

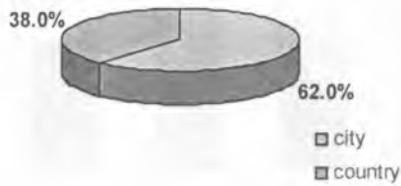


Fig. 5 The number of injuries and the environment

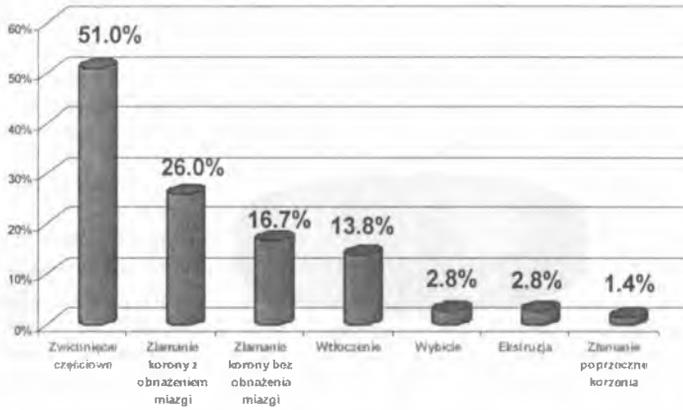


Fig. 6. The kinds of injuries of primary teeth

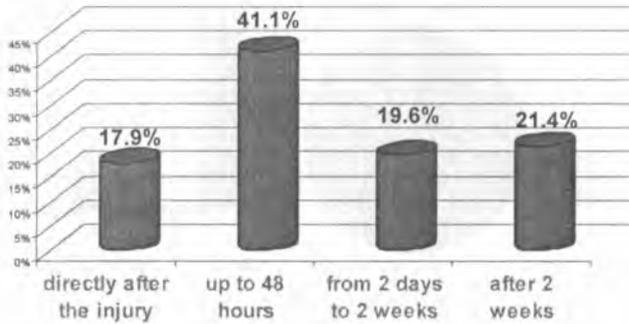


Fig. 7. The time elapsed from the injury and visiting a clinic

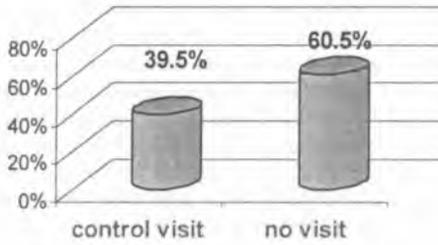


Fig. 8. The number of patients coming to control visits

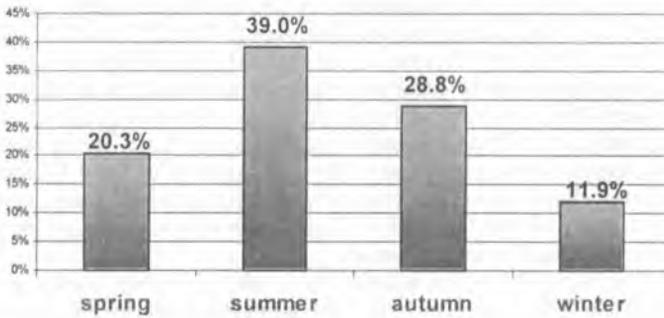


Fig. 9. The injuries and a season of the year

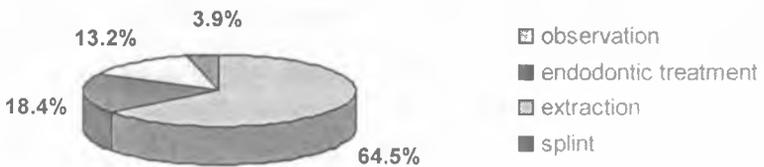


Fig.10. The treatment applied

17.9% of patients reported immediately to the clinic. Most patients reported in 48 hours' period (41%) – Fig. 7. 39% patients reported for the routine control examination (Fig. 8). Most injuries occurred in the summer time period (Fig. 9). Most commonly, after applying dressing to

the injury, observation as the conduct method was chosen (64.5%) – Fig. 10. This method was chosen in cases of teeth impaction (10 cases), extrusion (2 cases), crown fracture of Ellis 1<sup>st</sup> degree (10 cases), partial dislocation (25 cases) where regarding the small age of the patient or little grade of mobility no other methods were applied (extraction, splint).

Endodontic treatment was applied in 18.4% of cases (14 teeth in all). 6 teeth were affected by necrosis after partial dislocation, 1 tooth was affected by acute pulp inflammation after partial dislocation and crown fracture without pulp denudation. Extraction was necessary in 13.2% injuries of the milk teeth (10 teeth): 2 vertical fractures of the tooth, 8 complete fractures of the tooth crown with pulp denudation. In 3 cases (3.9%) composite splint was applied: 1 dislocation, 1 transversal breakage of the root (in 1/3 of the apex surface with simultaneous dislocation, 1 crown breakage without pulp denudation with simultaneous dislocation. These 4 cases were reported in children above 4 year of age.

## DISCUSSION

The causes of milk teeth injuries in children are different. In the youngest children they are connected with the period of learning to walk (between 1<sup>st</sup> and 2<sup>nd</sup> years of life). The injury happens most often as a result of face stroke against a hard object. In the later age (between 4<sup>th</sup> and 5<sup>th</sup> years of life) these injuries occur while playing as a result of a fall or a face stroke against a hard object. The injuries are accompanied by the injuries of the peridontium, the soft tissues, the oral cavity and the face. Among many factors that “ease” of the teeth injuries are occlusion defects, especially the protrusion of the upper incisors of I and II classes. It should also be stressed that children who are physically disabled (cerebral palsy, epilepsy) are at greater risk. Tooth injury may be the result of direct injury affecting chin, or the cheek, where the blow force is counteracted by the soft tissues.

The blow force as a result of the indirect injury may be imposed on the given tooth by means of the occlusion. The consequences of the injuries are dependent on many factors, such as the force of injury, the direction of the blow force, the shape of the blowing object, its elasticity, the age of the child, the type of the teeth (milk, permanent teeth). The softer and more elastic the blowing object, the less the probability of tooth crown breakage, but the greater risk of its dislocation. Milk teeth are more often affected by the dislocation or breakage due to their specific crown structure (shorter in relation to the crown of the permanent teeth), root structure that is affected by the physiological processes, which results in their weaker deposition in the tooth socket and due to the peridontium structure (the periodontal fibres are thinner, tooth socket process is weakly mineralized). Permanent teeth are more often affected by the breakage (in the crown or root area). The frequency of tooth injuries is difficult to establish, as children with minor injuries do not come to a dentist. Epidemiological data are therefore lowered.

## CONCLUSIONS

1. The choice of the method of treating the milk teeth in children depends on the child's age, the type of the injury and on the time that elapsed from the injury until reporting it to the clinic.
2. The most common type of injury is partial dislocation.
3. Late reporting to the clinic of the patient does not often allow for undertaking treatment using survival methods.

4. It should be remembered that the philosophy of the milk teeth treatment depends on avoiding the future complications the permanent teeth and of the occlusion.

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#### SUMMARY

The goal of this study was to analyze the impact of different kinds of injuries, time elapsed before treatment and child's age on the choice of management method. 59 children with the face trauma aged from six months to five years and a half were treated between 1999 and 2002 in the Department of Paedodontics of Lublin. 76 primary teeth were injured. The most common kind of trauma was lateral luxation. The choice of treatment approach depended of age, time elapsed before trauma management and a kind of injury. The conclusions after this study analyze were: 1. The trauma management method choice of primary dentition depends on a child's age, type of trauma and time elapsed before treatment. 2. The most common kind of trauma was lateral luxation. 3. Late management after injury does not always allows for the biological treatment methods.

#### Urazy zębów mlecznych

Celem pracy była analiza wpływu rodzaju uszkodzeń zębów mlecznych, czasu zgłoszenia się pacjenta po urazie oraz wieku dziecka na wybór metody leczenia. Postępowaniem lekarskim objęto 59 dzieci w wieku od 6 miesięcy do 5,5 roku, zgłaszających się do Zakładu Stomatologii Wiekii Rozwojowego AM w Lublinie w latach 1999–2002 z powodu doznanych urazów w obrębie twarzoczaszki. Urazowi uległo łącznie 76 zębów. Najczęstszym typem urazu było

zwichnięcie częściowe. Wybór metody leczenia uzależniony był od wieku, doznanego urazu i czasu zgłoszenia się pacjenta po urazie. Analizując wyniki badań, możemy dojść do następujących wniosków: 1. Wybór metody leczenia zębów mlecznych zależy od wieku dziecka, doznanego urazu oraz od czasu zgłoszenia się pacjenta po urazie. 2. Najczęstszym typem urazu jest zwichnięcie częściowe zębów. 3. Późne zgłoszenie się pacjenta po urazie nie zawsze pozwala na podjęcie leczenia metodami przyżyciowymi.