

Orofacial Trauma in Child Abuse and the Role of the Dental Profession

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MEDICINE

INTRODUCTION

When an individual is attacked for whatever reason, the head and/or facial areas are commonly involved. This is logical since these areas are exposed and the most accessible to the perpetrator. In addition, the head of the individual is considered representative of the whole being or "self". Therefore, it is not surprising that physical child abuse often involves the head and/or orofacial areas. This article will review the types and prevalence of orofacial trauma in child abuse cases and the role of the dental professional in identifying and treating such cases.

TYPES AND PREVALENCE OF OROFACIAL INJURIES

Some of the common physical features of child abuse were first described in a classic article published by John Caffey in 1946. Caffey described six infants suffering from chronic subdural hematomas who presented with multiple fractures in their long bones. In three of the six cases, orofacial injuries were noted. One child presented with swollen and hemorrhagic gums, petechiae in the oral mucosa and ecchymosis of the face. The other two children both exhibited bruises of the face (Caffey, 1946).

Cameron, Johnson and Camps (1966) also reported on the types of injuries sustained in physically abused children. The authors examined the autopsy findings of 29 fatal cases of abuse seen over a two year period in the Department of Forensic Medicine at the London Hospital Medical College. Half of the children studied (mean age 14.3 months) had obvious bruises of the head, face, and neck. All of the children exhibited soft tissue injuries. The prevalence and location of these injuries were as follows; 79% scalp, 59% neck, 52% forehead, 49% cheek, 48% lower jaw and right leg, and 45% upper lip region. Of the 13 areas described as sustaining soft tissue trauma, the head and neck area were among the most frequently described. Lesions to the jaw and neck were well circumscribed and of a "finger-tip" character suggestive of gripping.

It is important to note that lacerations of the mucosa of the inner aspect of the upper lip near the frenum and/or the occasional tearing of the lip from the alveolar margin of the gums occurred in 45% of Cameron et al's cases. In no other study is such a high frequency of frenal lacerations reported, thus torn frenums should not necessarily be considered indicative of inflicted injuries as so often is the case. The age of the child presenting with a frenal laceration is significant in determining the possibility of non-accidental trauma. A fre-

num tear is not uncommon in the child who is learning to walk (generally between 9 - 18 months) when he/she accidentally falls. However, a frenum tear in a very young, non-ambulatory patient (less than one year) should arouse one's suspicion as to the possibility of this injury being non-accidental in origin. This type of injury may be the result of a blow to the mouth, an effort to silence a screaming child, or the forcing of a spoon or bottle into a baby's mouth by an angry parent who is frustrated at a slow eater. Cameron et al also state that bruises of the cheeks and sides of the head suggest blows or slaps with a fist or open hand. If the lesions are more localized and have underlying severe injuries, they may represent a severe blow or impact with a hard object.

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Since Cameron et al's 1966 article, numerous studies have been published investigating the prevalence of orofacial trauma in abused children (Skinner and Castle, 1967; O'Neill, Meacham, Griffin and Sawyers, 1973; Baetz, Sledziewski and Margetts, 1977; Becker, Needleman, and Kotelchuck, 1978; Malcez, 1979; da Fonseca, Feigal, and ten Bensel, 1992; Jessee, 1995). These studies report the prevalence of trauma to the head and orofacial complex to range between 44% and 86%. Most of the examinations in these studies

were performed by physicians, without the involvement of dentists. The study by da Fonseca et al. (1992) had the largest sample of children (1248) and reported a prevalence of trauma to the head and orofacial complex of 75%. Malcez (1979) reported the highest prevalence (86%) presumably because it was the only study to involve dentists in the physical examination.

In reviewing the types of head and orofacial injuries sustained by physically abused children in the above studies, contusions and ecchymoses were the most prevalent injury, occurring in 37% of the cases on the average. This was followed in prevalence by bony fractures (15%), abrasions/lacerations (13%), burns (6%), subdural hematomas (3%), and dental injuries (1%).

Malcez (1979) reported the types of dental injuries seen in the 25 cases of suspected abuse reported by pediatric dentists. Fractured teeth (32%), oral lacerations (14%), fractures of the maxilla or mandible (11%), and oral burns (5%) were the principal dental injuries seen in these cases.

Only four of the large prevalence studies previously cited documented the types of intraoral/dental injuries sustained in the abused cases (Cameron et al, 1966; Becker et al, 1978; da Fonseca et al, 1992; and Jessee, 1995). When the data from these studies were combined,

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only 2.4% (71/2,910) of the injuries sustained by the 1,774 child were intraoral. Soft tissue trauma to the intraoral tissues (lacerations, ecchymoses) was by far the most common type, with tooth injuries and jaw fractures occurring much less often. Again, in considering this low prevalence of intraoral injuries, it is important to remember that non-dentists were performing the examinations and recording the injuries noted in the physical examination of the children. Therefore, it can be assumed that a higher prevalence of intraoral injuries might actually be present in non-accidental trauma.

The oral cavity is a frequent site of sexual abuse in children (Kenney and Clark, 1992). The presence of oral and perioral gonorrhea or syphilis in a prepubertal child mandates an evaluation for sexual abuse. Unexplained erythema or petechia of the palate, particularly at the junction of the hard and soft palate, may be evidence of forced oral sex. Oral or perioral condylomata acuminata may also be a sign of sexual contact (Seidel, Zonanao and Totten, 1979)

Children who are abused are eight times more likely to have untreated, decayed permanent teeth than are nonabused children (Greene, Cassock, and Aaron, 1994). Therefore, it is important that these children be referred to the proper dental screening as part of their overall case management.

In summary, these studies demonstrate that 1) trauma to the head and associated areas occur in over half of the cases of physical abuse to children; 2) soft tissue injuries (most frequently bruises) are the most common injury sustained to the head and orofacial complex; and 3) injuries to the upper lip and maxillary labial frenum may be a characteristic lesion in the severely abused non-ambulatory child. Given the large number of children abused every year, it is obvious that dental professionals are in a position to detect substantial numbers of abused children.

THE DENTAL PROFESSION'S INVOLVEMENT

In all 50 states, dentists are required by law to report suspected cases of child abuse and neglect to social service or law enforcement agencies (Mouden and Bross, 1995). For more than three decades, organized dentistry has been involved in efforts to increase detection and reporting of abused children by dentists, hygienists, dental assistants and other dental support staff. Numerous articles have appeared in the dental literature alerting the profession to its moral and legal responsibility as health professionals to recognize and report child abuse.

There are numerous case reports in the dental literature in which the dentist was the professional who initially suspected that injuries involving a child's

orofacial structure were the result of physical abuse. Most of these cases involved severe head and orofacial injuries which resulted in hospital admission or death. Therefore, it can be assumed that less severe non-accidental trauma cases appear in medical and/or dental outpatient office settings. These cases may go undetected by the dentist or physician due to their lack of suspicion and/or lack of knowledge of child abuse and neglect.

The first evidence of a lack of reporting of child abuse by dentists appeared in the Journal of the American Dental Association in 1967 ("Child Abuse Reporting Laws," 1967). In this short article, reports of child abuse in the states of New York and Illinois were documented. During 1966 in New York, 416 cases of suspected child abuse were reported; 85% of these reports came from hospitals, 12% from physicians and no reports came

from dentists. Illinois records indicate that 934 reports of child abuse were received between 1965 and 1967, only one of which was from a dentist. The first large-scale study investigating the dentist's involvement with child abuse was published by Becker et al in 1978. As a result of this paper the dental profession began to actively address the lack of dentists' involvement in the recognition and reporting of such cases.

Becker et al (1978) sent questionnaires to all pediatric dentists, all oral surgeons and one-third of all general dentists in Massachusetts. Based on 537 responses, the following observations were made:

- 1) Eight percent of all dentists responding saw suspected cases of child abuse (22% of oral surgeons and 18% of pediatric dentists).
- 2) Of the 22 suspected cases of child abuse seen, only four cases were actually reported. The main reason cited for non-reporting was that it was difficult to confirm these suspicions.
- 3) Only 45% of dentists were aware of their legal responsibility to report suspected cases of child abuse (77% of the pediatric dentists and 62% of the oral surgeons).
- 4) Only 28% of dentists knew the name of the agency to which to report these cases.
- 5) Although oral surgeons and pediatric dentists represented 15% of the respondents to the questionnaire, they saw 41% of the suspected cases and 59% of the definitive cases of child abuse.

Since that time other studies have been published substantiating the minimal extent to which dentists are involved in reporting cases of child abuse (Davies et al 1979; Malcez 1979; Blain et al 1979; Blain et al 1982; Ramos-Gomez, Rothman, and Blain, 1998). These sur-

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veys clearly demonstrate that dentists 1) do see cases suspicious for child abuse, 2) often fail to report their suspicions as is legally required, 3) do not have adequate training or knowledge of child abuse and neglect, and 4) if made aware of child abuse and neglect and their responsibility to report, identification and subsequent reporting of these cases by dentists would increase.

Organized dentistry has developed policies and programs to encourage its membership to improve the detection and reporting of child abuse. As early as 1979, the American Dental Association (ADA) developed a policy to encourage its members to be more mindful of their responsibilities in regard to the professional and legal aspects of child abuse. In 1993 the ADA added this responsibility to its *Principles of Conduct and Code of Ethics* stating, "Dentists shall be obliged to become familiar with the perioral signs of child abuse and to report suspected cases to the proper authorities consistent with state law." (American Dental Association, 1995, p. 7) The ADA's Council on Dental Practice has published a booklet for the ADA members entitled "The Dentist's Responsibility in Identifying and Reporting Child Abuse and Neglect", now in its third edition. This document offers guidance for dentists on their role in detecting and reporting child abuse. In addition, it outlines each state's reporting statutes as they relate to dentists, lists each state's reporting agencies, and provides a comprehensive bibliography.

In 1990, Massachusetts became the first state to develop an organized statewide program to educate its dental professionals on the clinical, legal and reporting issues related to child abuse (Needleman, Mac Gregor, and Lynch, 1995). The program was developed and implemented by a coalition of government, private, educational and professional organizations interested and knowledgeable in these issues. This coalition became a model for the successful nationwide program entitled "Prevent Abuse and Neglect through Dental Awareness (PANDA) Coalition" which started in Missouri in 1992. Since that time the program has been established in 34 states in the United States and is now being established in other countries as well. Evidence is slowly mounting documenting the success of these statewide efforts (American Dental Association, 1994). In Missouri, the number of reports by dentists rose by 60% following the year of PANDA's educational and awareness campaign and after four years the reporting rate by dentists had risen by 160% (Mouden, 1998). Most recently, other types of non-accidental trauma such as spousal/partner abuse and elder abuse have been added to the mission of these state coalitions.

SUMMARY

Orofacial trauma is extremely common in cases of child abuse. The dental profession thus has a key role to play in the evaluation and detection of non-accidental trauma to children. Through education and awareness campaigns, dental professionals are increasing their awareness of all types of family violence and their responsibilities to detect and report such cases.

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