

Physical Child Abuse: A Case Report

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Abstract: Orofacial trauma is the most common trauma that occurs in the cases of abuse of young infants and children. The purpose of this report is to review the oral and dental aspects of physical abuse and the role of physicians and dentists in evaluating such conditions. This study addresses the evaluation of craniofacial injuries as well as perioral and intraoral injuries, infections and diseases that may be suspicious for child abuse or neglect. Physicians receive minimal training in oral health and dental injury and disease and thus, may not detect dental aspects of abuse or neglect as readily as they do child abuse and neglect involving other areas of the body. Therefore, physicians and dentists are encouraged to collaborate to increase the prevention, detection and treatment of these conditions. The current case report involves a young child with orofacial trauma. The historical trends of child abuse are outlined in order to prove the diachronic pattern of this phenomenon.

Key words: Domestic violence, physical abuse, orofacial trauma, oral findings, recognition, child abuse, Greek mythology

INTRODUCTION

Child abuse is not a concurrent phenomenon. The historical roots of abuse and neglect derive from ancient Greece. It was a common practice in ancient Greece and later in Rome for deformed children and female infants to be left to die or even deliberately kill them. Numerous examples are recorded to Greek mythology. Names like Hercules, Saturn, Cronus, Zeus Aesculapius, Medea are very familiar. The stories can be divided in 3 categories: child abuse from Gods to Gods, from Gods to humans and from humans to humans. In these stories, children are abused in different ways and the reasons are social, financial, political, religious, medical and sexual (Stavrianos and Metska, 2002; Stavrianos *et al.*, 2005) (Fig. 1). For example, the most characteristic story is the one of Niobe's. Niobe was wife of Amphion, King of Thebes. They had 14 children, 7 boys and 7 girls. She was so proud of the number of the size of her family that she boasted her self superior to Leto (mother of two children, Apollo and Artemis). The two Gods decided to get revenge. First Apollo killed the 7 boys with arrows. As Niobe mourned her sons. Artemis start killing her daughters with arrows. In vain, Niobe tried to save her children hiding them in her lap and asking for mercy from the Gods. The last one died in her lap tried to escape the terrible death. The Gods watching the Niobe's infinite grief changed her into stone. The statue was placed on mountain Sipylus and it is said that tears continuously

flowed down the marble cheeks, ever weeping for her 14 children (Stavrianos *et al.*, 2008). Some of the most ancient cases of child abuse are found in the mythology of different nations. Mythology is the science which treats of the early traditions (myths) relating to the religion of the ancients and includes, besides a full account of the origin of their gods, their lives, the heroes and their theory concerning the beginning of the world (Grimal, 1981; Guerber, 1910). People believed so strongly in these myths that they replaced reality so that later would turn to be descriptions of historical facts or allegories (Caldwell, 1989; Stavrianos *et al.*, 2008). It is obvious that in these stories, the children are constantly in danger. Gods are against them and even their parents appear to be their greatest enemies. The children appearing in the Greek mythology seem to be victims of abuse. Child abuse is performed in many different ways, some are still in practice even in the modern societies (e.g., exposition of a child due to gender). In contrast to the myths, we know that the children in ancient Athens and in other parts of the Greek, world were carefully protected. They considered being the citizens of tomorrow, the heirs of the land and of the family name (Caldwell, 1989; Buxton, 1998). We should not forget that the child mortality rate was high and the future was uncertain (war, infectious diseases, famine, etc.). It is very interesting that the great tragedians of the 5th century BCE in Athens, avoid referring to these terrifying myths. Perhaps, it was considered to be quite



Fig. 1: A) Medea killing her child who struggles to escape using a sword (from humans against humans); B) Hercules throwing his child onto the fire. Megara on the right is trying to save herself. Hera in order to destroy Hercules life as she understood that it would be difficult to kill him she drove him mad. In a fit of delirium crashed his 3 children onto the fireplace (from humans against humans); C) Saturn devouring one of his children (from Gods against Gods- F. Goya, 1811, Prado museum, Spain); D) Apollo and Artemis killing Niobe's children (from Gods against humans) and E) Zeus throwing little Hephaestus from the mountain of Olympus while Hera is watching helpless (from Gods against Gods-Berlin and Schloss Charlottenburg-Staatliche museum)

sophisticated for the Athenian audience. Archaeologists, historians, philosophers and scholars still try to bring light to these ancient stories. Their interpretations differ and their conclusions and suggestions seem controversial (Stavrianos and Metska, 2002; Stavrianos *et al.*, 2008). Child neglect was depicted in Islamic documents in the 9th century. Al-Razi, who was a rather important doctor that time was sensitive on this act and proposed in his text the use of contraceptive medicine (Fig. 2). He created and uses contraceptive pills and suppositories with various ingredients such as pomegranates, cabbage, iron, ox gall, animals' ear wax, elephant dung, etc. Child abuse seems to be an important issue in the newly-formed Greek state in early 1830.

Adamantios Korais, a significant scholar of Modern Greek literature and also a graduated medical doctor was highly motivated against this phenomenon and this had a huge impact in his publishing work (Stavrianos and Metska, 2002) (Fig. 3).

Right after that but with no relevance between the facts, the prevention of cruelty to children in the US was formed in 1874 after the case of an abused child, Mary-Helen which socked the public and resulted in

activation of the authorities on such subjects (Stavrianos and Metska, 2002). The medical profession's first involvement in child abuse historically begins in 1946 with Cafey, a pediatric radiologist, who observed that children with subdural haematoma sometimes also exhibited abnormal changes in long bones, indicative of previous trauma.

The worldwide interest and protective character of abused children was impressed on the formation of UNICEF in 1953 by the United Nations (Stavrianos and Metska, 2002). In 1962, Kempe coined the term Battered Child Syndrome, a clinical condition in which fracture of any bone, subdural haematoma, failure to thrive, swellings, bruises and/or sudden death was at variance with the reported history.

Because of radiology, physical abuse and child neglect were officially recognized in the 1960s' but it took another decade for sexual abuse to be acknowledged. It was not until the 1980s' and 1990s' that emotional child abuse was recognized (Caffey, 1946; Kempe *et al.*, 1962; Stavrianos *et al.*, 2010a). Specific oral lesions or conditions such as the Munchausen's syndrome may depict after the abuse.



Fig. 2: Adamantios Korais, a significant Greek scholar of the 19th century; Al-Razi, Islamic doctor



Fig. 3: Haematoma in the left periorbital area and ecchymosis in the right periorbital region caused by his father

Eventually many states responded to their perceived moral and legal responsibility by making child abuse a criminal act during the late 1960's. However, reporting child abuse was still not legally required. Consequently, most incidents of suspected child abuse remained behind closed doors and were neither acknowledged nor challenged. Finally in 1974, the United States Congress enacted the Child Abuse Prevention and Treatment Act (CAPTA) which provided federal funds dedicated to prevent child abuse for states that passed laws requiring certain professionals (law enforcement professionals, educators and medical and mental health care professionals) to report suspected child maltreatment. In short order, every state had mandatory reporting laws enacted in their legislatures.

Several initiatives in recent years have helped dentistry deal with child abuse and neglect. A notable program is the Prevent Abuse and Neglect through Dental Awareness (PANDA) coalition, organized by Lynn

Douglas Mouden. PANDA which began with the model program in Missouri in 1992 is now in 34 states in the United States and has 2 coalitions in Romania. The same year ADA passed resolutions that urged dentists to become familiar with the perioral signs of child abuse and to report suspected cases and to make information on this subject available to all members (Mouden, 1994, 1996, 1998a, b). The PANDA program includes elder abuse and neglect as it was proposed by the Canadian Dental Association in 1997. In 2003, the California Dental Association Foundation (CDAF) was enhanced by Blue Shield of California, Blue Shield of California Foundation and Dental Benefit Providers and created Dental Professionals Against Violence. The DPAV curriculum is the most extensive one on family violence concerning the dental professionals (Little, 2004).

Physical abuse: Physical abuse is the intentional use of force on any part of a child's body that results in serious injuries. It may be a single incident or series of incidents. The criminal code states that physical force cannot be used on children unless the force used is reasonable and has been used for corrective purposes by a parent or someone acting in the role of a parent. Child abuse leaves in head and neck injuries in more than half of the cases reported (Cameron *et al.*, 1966; Schwartz *et al.*, 1976; Baetz *et al.*, 1977; Becker *et al.*, 1978; Sogmaes and Blain, 1979; Donly and Nowak, 1994; Jessee, 1995; Jessee and Rieger, 1996; Stavrianos *et al.*, 2010a). A careful and detailed examination is asserted to exhibit all the possible signs and symptoms of abuse. The examination as far as the head and neck is concerned, should not be only extraoral but intraoral too because oral health problems sometimes are provoked by a child neglect or even abuse. The oral area is usually a target of the abuser

Table 1: Oral findings of child maltreatment (Bernstein, 1997)

Findings	Cause
Multiple broken, discoloured, missing or avulsed front teeth	Repeated episodes of mouth trauma
Peculiar malocclusions and non occluding jaw segments	Healed jaw fractures which were displaced and not reduced
Laceration of labial or lingual frena	Forceful lip pulling or slapping
Isolated laceration of soft palate	Insertion of a utensil during forced feeding
Horizontal abrasions or contusions extending from lip commissures	Application of a gag
Tooth marks in labial mucosa corresponding to child's teeth	Pressure from smothering
Bite marks on skin	Child bite (unsupervised children); adult bite (anger biting)
Rampant caries (decay)	Nursing-bottle mouth syndrome child is continually allowed to fall asleep with bottle in mouth, containing sugar from milk, juice, etc. (possible child neglect)
Venereal disease	Venereal warts, gonococcal stomatitis and pharyngitis, syphilitic lesions (indicates sexual abuse)

as young infants and children tend to cry and the assaulter tries to stop in by hitting them in the lower part of the face. Findings such as caries and gingivitis should be recorded too. Intraoral injuries may be a result of instruments such as bottles during forced feedings. These can result in contusions or lacerations of the tongue, lips, palate and frenum. Lips as the most prominent anatomical structure of face, almost always is inflicted in the trauma region. Teeth may be displaced or avulsed; pulp necrosis is a definite result (Needleman, 1986; O'Neill *et al.*, 1973; Skinner and Castle, 1969; Tate, 1971). Gags applied to the mouth may result in bruises, lichenification or scarring at the corners of the mouth (Vadiakas *et al.*, 1991). Serious pharyngeal injuries usually require immediate medical care. Despite the extent of injuries, all such cases should be reported to the authorities for further investigation (Naidoo, 2000). Accidents or unintentional injuries happen often in the orofacial region and must be clearly distinguished from abuse. Facts such as former history, mechanism of injury, child's developmental capabilities can be a significant prompt to exclude or conclude in the recognition of a child abuse victim. If the clinical examination reveals multiple injuries in different stage of healing, a suspicion of abuse is aroused (Kittle *et al.*, 1981).

In cases of abuse, the 75% of cases concern head and neck injuries (Da Fonseca *et al.*, 1992). Thus, the dental profession can easily recognize the majority of the cases that involve this type of injuries (Averill, 1991; Kenney and Spencer, 1995). The examination of the oral cavity and perioral region can resume certain findings that are listed (Table 1). Of course, injuries may concern accidental incidents. Even bite marks may be the result of accidental bites between children during play. Also, the nursing or bottle mouth syndrome may reflect poor parental skills and not wilful neglect. The recurrence of these incidences may depict a permanent neglect (Bernstein, 1997; Vale, 1997). The American Medical Association estimates that nearly 3 million suspected cases of child abuse and neglect were reported in the US in 1993 of which approximately, 4000 children died from

injuries sustained from abuse. The lack of report is as high as up to 50%. This underestimates the figures. Most child victims are too young to tell anyone that they are being abused; half the fatalities are among children <1 year of age (Mouden, 1996). Tragically, it is estimated that 50% of the mothers of abused children are victims of abuse themselves (Salber and Taliaferro, 1995).

Because the majority of physical injuries from domestic and other forms of violence are inflicted to the head and face and there is evidence that many victims interact with dental care providers, dental professionals are in an excellent position to recognize such abuse (Sweet, 1996; Gwinn *et al.*, 2004).

Case report: A case of child abuse 15 years old boy was reported in a hospital with a significant orofacial trauma. The examination showed a certain haematoma on the left periorbital area and an ecchymosis inside the right eye's sclera. In the right periorbital area, the skin ecchymosis was less significant but evident (Fig. 3). The marks were consistent with the attributes of severe punches by an adult. After a thorough anamnestic record, it was discovered that the child was beaten again in the past and it was not until later that it was proven that his father was the assaulter. His alcoholic record lead to the abuse of his son and thus to severe trauma in its face. First aid medical care was given to the child. The victim was committed to the hospital for further examination and care. The legal authorities undertook the responsibility of care and protection of the victim.

DISCUSSION

Physical child abuse is now recognised as an international issue and has been reported in many countries (Creighton, 1985; Merrick and Michelsen, 1985; Finkelhor and Korbin, 1988). Some studies have attempted to reveal the extent of the problem in the Middle East. Thus, the figures on prevalence are difficult to be obtained. The WHO Global Burden of disease database estimates that 1.2 million children experienced some form

of violence in 2004 in the WHO Eastern Mediterranean region (WHO, 2010). A recent survey looking at the extent of child abuse and maltreatment in the same region found that 43% of boys and 29% of girls between 13 and 15 years were physically or psychologically abused in 2006-2007.

The strongest indicator on whether or not child abuse and neglect is or will be present is the way a family values children and youth. Throughout history, children were considered property. Parents had the unrestricted authority to do to a child whatever was deemed necessary. However, laws that have been passed in the last decades have set a limit to parental authority and have boosted the authority of the child consultations centers, making it possible to enter a house and to investigate or seek help from the police (Malecz, 1979; Mouden and Bross, 1995; Stavrianos *et al.*, 2007, 2009, 2010b).

CONCLUSION

Dental professionals should be highly trained in order to be able to recognize early symptoms of child neglect and abuse. Not only physical but psychological signs should be defined, monitored and recorded in order to safely conclude to such a condition. Thus, it is recommended that for dentists, dental hygienists and dental assistants raise a great level of awareness on the behavioural and forensic sciences in order to depict the needed sensitivity and avoid conditions and statements that may lead to misunderstandings.

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