

Bite injuries upon a newborn

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Summary. A 2½-year-old boy inflicted on his 7-day-old brother suction and bite injuries of the head with loss of tissue of nose and lips. Place of the incident was the parents' bed. The event motivated us to report on the assignment of such injuries and the reasons for sibling violence.

Key words: Forensic odontology – Bite injuries – Bite marks – Newborn – Sibling jealousy

Zusammenfassung. Ein 2½-jähriger Knabe fügte seinem 7 Tage alten Bruder Saug- und Bißverletzungen des Kopfes mit Gewebsverlust an Nase und Lippen zu. „Tatort“ war das Ehebett der Eltern. Das Ereignis wird zum Anlaß genommen, über die Zuordnung derartiger Verletzungsbilder und die Beweggründe von Gewaltäußerungen unter Geschwistern zu berichten.

Schlüsselwörter: Forensische Odontologie – Biß – Bißspuren – Neugeborenes – Geschwistereifersucht

Introduction

Bite injuries upon newborns are rare. First of all, it is essential to identify the species origin of bite marks for an assignment and treatment of injuries. It must also be determined, whether a bite injury was caused by abuse.

A 7-day-old newborn suffered from severe mutilating facial injuries. The boy had been discharged from maternity hospital together with his mother on the 6th day after delivery. He was born as the second child of young healthy parents and pregnancy and birth had taken a normal course. At the time of the incident the firstborn child of the family, also a boy, was 2½ years old.

The mother stated that, after having nursed her newborn, she had put him into his bed directly by the side of the parents' bed at 8.45 a.m. and left it alone. The doors and windows of the house had been closed. The cat had been in the courtyard, and no other pets had been in the

apartment. Towards 9.45 a.m. a neighbour who was near the window looking onto the courtyard of the estate, heard children crying and informed the mother. The mother said that she had hurried into the sleeping room where she found both children lying in the parental bed. The faces of both children were bloodstained as was the bedsheet and the pyjamas of the two children also. The 2½-year-old brother said: “Baby Aua gemacht” (meaning: “I hurt baby”). The child seemed to be distressed but quiet.

The mother took the newborn to the maternity hospital where the pediatric examination revealed considerable defects of the soft tissue of nose and lips and circular rubefactions on the newborn's head. The palpebrae were swollen (Fig. 1). The skin of the extensor side of the left index finger had a sharp-edged cut 5 mm long.

After the initial treatment, an analysis of the injuries was performed by a medical-legal consultant due to the unusual form of the injuries. In addition, the clothing of the newborn and his 2½-year-old brother was investigated.

Findings

Newborn boy, developed according to age, body height 51 cm, body weight 4200 g.

Palpebral ecchymoses and bilateral swelling. Single and grouped, mostly 3–5 mm long and 0.5–1 mm wide, straight and curved clean-edged incisions of the tissue

- of the vertex bilaterally,
- in the middle of the forehead,
- of the palpebrae bilaterally,
- of the right cheek,
- of the curved torus of the right ear,
- of the proximal phalanx of the left index finger,

skin lesions on the forehead and the left cheek, single point-sized up to pinhead-sized defects of the tissue of the left and right cheek, round-shaped ecchymoses in the area of the forehead, vertex and right cheek, up to 35 mm long, contused lacerated wounds of the upper and lower lips as well as the nose with loss of tissue (Fig. 1).



Fig. 1. Facial injuries of the newborn at the time of admission to hospital

Diagnosis

Combination of tooth marks, suction marks and bite defects of lips and nose caused by human bites.

Criminal evidence

The bite marks were identical with the dental impression of the 2½-year-old brother (Fig. 2).

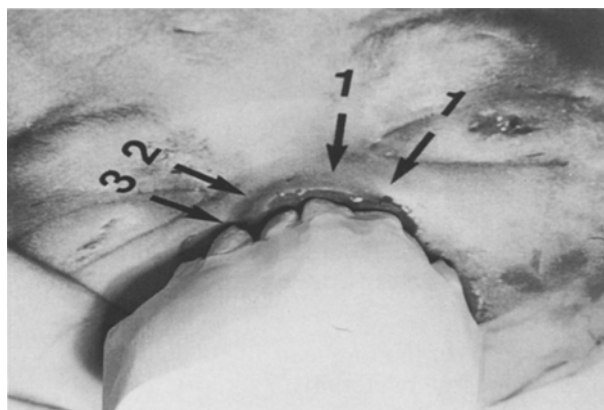


Fig. 2. Comparison of the plaster model of the brother's upper jaw (impression with Optosil® – Xantoprene® L) with the bite mark. For better demonstration the dental model has been slightly withdrawn from the edge of the wound. Typical individual characteristics are the torsion position of the two upper incisors (marked by "1" with arrow) and a typical individual position of teeth 2 and 3 (lateral upper left incisor and canine). Minor wound edge shrinkages caused by exsiccation do not have a negative influence on the result. The photographs of the bite wound and the dental model are on a scale of 1:1

Table 1. Results of blood examinations

Blood group characteristics	ABO	GM	Inv	PGM1-Subtyping
Brother	A1	1- 2-	1-	1+ 1+
Newborn	A2	1+ 2-	1-	2- 1+
Top of brother's pyjamas	A	1+ 2-	1-	2- 1+
Newborn's sleeping suit	A	1+ 2-	1-	2- 1+

Examination of blood and saliva

Blood grouping results corresponding to that of the newborn were found on the top of the brother's pyjamas and on the newborn's sleeping suit (Table 1).

There was no evidence of saliva (amylase) on a total of 6 swabs from the skin surrounding the injuries.

Medical treatment

It should be pointed out that grafting was dispensed with. By means of an intravenous antibiotic treatment with Cefotaxim and Gentamicin for a period of 4 days and local application of panthenol ointments the wounds did not become inflamed and healed, leaving only minor defects (Fig. 3).

Discussion

The facial injuries of the 7-day-old newborn were caused by his robust 2½-year-old brother. According to the circumstances, the brother had drawn the baby out of his bed into the parental bed and inflicted the injuries described on the male newborn (body weight 4200 g, body height 51 cm), who was certainly hardly able to move, by sucking, nibbling, gnawing and biting. Parts of tissue



Fig. 3. State of wound healing 6 months after the infliction of injuries

corresponding to those lost from lips and nose must have been swallowed, since they could not be found.

The essential differential-diagnostic question – human or animal's bite – could be answered in the way described above. The characteristic injuries were identical with the dental pattern of the 2½-year-old brother. No pets had access to the sleeping room at the time in question, although in the beginning the cat had been assumed to be the culprit.

Thus, the conclusion can be drawn from the morphology of injuries, blood traces, lack of other signs of violence, remarks made by the brother and the circumstances of the case that the brother had inflicted the injuries on the newborn. The examination of the swabs of the newborn's skin for the evidence of saliva (amylase) was negative, since the wounds had already been cleaned, disinfected and treated by the time the skin swabs were taken.

We performed the examinations according to the recommendations made by Endris [7]: for bite mark analysis the victim should be seen immediately, the anamnesis studied, general and detailed photographs taken with and without scale and indication of color nuance. Traces of saliva have to be preserved using gauze pads and physiological saline solution, if required. A control sample has to be taken from a different site on the skin. A saliva and blood sample must be taken from the victim.

Discussion of the subjects "human bite injuries" and "sibling violence" in the literature

Human bite injuries are not uncommon in infants [1, 15] and newborn children [8, 12, 16, 17, 20]. However, the present case has to be regarded as unusual due to the age of the victim and the severity of the bite injuries. Although we found descriptions of human avulsions of nose and lip with adults, we did not find any reports on bite injuries upon newborns [3, 5, 6, 10, 11, 13, 18].

According to investigations made by Bender [2], the reason for sibling violence is increasing sibling rivalry caused by aggressive parents or foster parents. The lack of positive affection reactions with children, a consequence of depravation by parents and educators, makes them unable to check or neutralize their aggressive impulses. According to Carek et al. [4], Tooley [19], Paluzny and McNabb [14] and Green [9], children abusing their younger sibling were frequently abused or neglected themselves by their parents.

None of these reasons, however, can be applied to the present case, since the 2½-year-old brother had obviously neither been abused nor neglected by his parents.

The pediatric and child-psychiatric examinations of the 2½-year-old brother gave no indication as to the reason except for a minor delay in development. The interrogation of the parents did not reveal any particularities.

It is conspicuous that the incidence almost coincided with the newborn entering into the brother's sphere of life. Due to the parents' devotion to the newborn, the brother might have felt acutely excluded and abandoned. Thus, "natural" emotions of rivalry and jealousy might have been increased to such an extent that the brother felt urged to act the way he did.

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