

Medicolegal Approach to Child Physical Abuse in an Emergency Clinic

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Abstract

Child abuse is a global health problem. For this reason, it is important to perform suitable medical approaches in suspected cases of child abuse in the emergency room. The first consideration is performing life-saving medical approaches. Reporting the case to judicial authorities and the correlation of medical examination findings with medicolegal history are other important steps. We report a case of a 3-year-old male child who died after severe physical abuse. In suspected cases of child abuse, examination of the fundus is important. If death occurs, histopathological examination of eye globes must be performed to determine the cause of death. The present case was the first in which eye globe examination was performed in İzmir, Turkey. Autopsy findings revealed subdural hemorrhage and subarachnoid hemorrhage caused by blunt trauma. The cause of death was blunt head trauma, and the manner of death was listed as homicide. Except for microhemorrhages in the optic nerve sheath, no pathological finding was identified in the retina. Retinal hemorrhage can be seen in child abuse cases, and it is associated with a poor prognosis if present; however, the absence of retinal hemorrhage does not exclude child abuse. Crime scene investigation findings, witnesses' statements, medical records, and autopsy findings must all be taken into consideration in child abuse cases in a correlative and holistic manner. (*Eurasian J Emerg Med* 2015; 14: 201-3)

Keywords: Emergency clinic, child abuse, ocular findings, autopsy

Introduction

Ambroise Tardieu first described the cases of battered children in 1860 (1). Approximately after 100 years, in 1946, a pediatric radiologist John Caffey reported the relationship between subdural hematoma and multiple bone fractures in six cases in the infant age group (2). In 1962, Henry Kempe described the clinical signs of physical abuse of children and was the first to present the "battered child syndrome" concept (3). Shaken infant syndrome was first described by Guthkelch and then by Caffey in the beginning of 1970s (4, 5). The pioneering work of these doctors marked the major milestones for the detection of child abuse cases, and they raised awareness on this issue. Children are very sensitive to the violence; because of the devastating effects on human health, child abuse is considered to be a public health emergency. Therefore, careful evaluation of suspected abuse cases and informing the judicial authorities about them is needed. If death occurred, forensic autopsy must be performed ac-

ording to the current guidelines. During the autopsy, it is important to perform histopathological eye examination. According to our knowledge, the present case is the first in which the eyes of the child are removed and examined in the province of İzmir. By presenting this case, we aimed to increase the awareness level of physicians working in hospital emergency clinics for performing adequate approaches for suspected cases of child abuse and also for informing them about the importance of eye examination in performing autopsy.

Case Presentation

Present case is a 3-year-old boy admitted to a state hospital emergency service with loss of consciousness by his mother. At the time of arrival to the hospital, Glasgow Coma Scale (GCS) was E1M1V1, and general condition of the child was poor; it was stated that there was spontaneous breathing. Large number of purple bruises had been identified around orbits, forehead, chest wall,

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Received: 21.04.2012

Accepted: 20.12.2012

Available Online Date: 08.04.2013

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DOI: 10.5152/jaem.2013.022



and zygoma of the child. The first forensic history was taken from her mother and the mother's boyfriend in the hospital while they were together. Both people also stated that the child fell from a sofa. After initial emergency treatment in the emergency department, the case was referred to a level 3 state hospital. During hospital admission, Glasgow Coma Score was E1M1V1; subarachnoid hemorrhage and subdural hematoma were detected in computed tomography (CT) scan of the brain. Hematuria was found in urine analysis. Despite all treatment efforts, brain death of the children occurred after 2 days. In the state hospital, forensic medical history was taken from his mother again while she was alone. The child's mother claimed that her drunken boyfriend came to the house and then held the child, hit the child with his fists several times, and threw him onto the ground. She added that she could not say the truth in the first forensic interview because of being threatened by her boyfriend. The deceased was transferred to the Izmir Morgue Department of the Council of Forensic Medicine Institute for performing autopsy.

On conducting external examination during autopsy, the deceased was naked and weighed 10 kg; his height was 90 cm. The upper and lower limbs were symmetrical. External examination revealed contact pallor over the shoulder blades and buttocks. Rigor mortis was generalized and fixed on the knee and elbow not blanching on fingertip pressure. Bruises and abrasions were identified on frontal, nasal, and orbital regions. Purple bruises in different sizes were identified on the front chest wall, left arm, back, wrist, and dorsum of the penis. The upper and lower limbs were symmetrical. On internal examination, wide, purple bruised area was found at the inner scalp, consistent with the bruised area found during external examination. Subdural hemorrhages and focal subarachnoid hemorrhage were found in both cerebral hemispheres; subdural hemorrhages were found in the cerebellum and brain stem. Mild cerebral edema was found in the brain. Postmortem ocular examination was performed. Focal micro hemorrhages were found on the optic nerve sheath. On histopathological examination, subdural hematoma and subarachnoid hemorrhage were detected in the brain. Optic nerve sheath hemorrhage was detected on the examination of the eyeball (Figure 1). Emphysematous changes were also seen in the

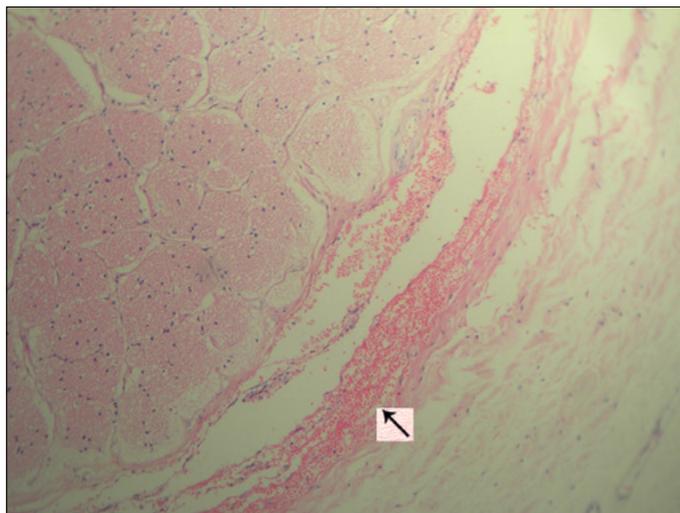


Figure 1. Optic nerve sheath hemorrhage was detected in the microscopic examination of the eye globe

lungs. Pathologic lesions were not observed in other internal organs (heart, liver, spleen, and kidneys). As a result, autopsy findings revealed blunt force trauma, subdural hemorrhage, focal subarachnoid hemorrhage, and micro hemorrhages in the optic nerve sheath. The cause of death was blunt force trauma to the head, consistent with the findings for child physical abuse. The manner of death was listed as homicide.

Discussion

Retinal hemorrhages are often detected in physically abused children, particularly infants who are severely shaken (6). A retrospective study showed that patients with abusive head trauma were more likely to present with neurologic symptoms (unconsciousness, seizure, and paralysis), subdural hemorrhage, retinal hemorrhages, and no history of injury caused by the caregiver (7). In this case, loss of consciousness, subdural and subarachnoid hemorrhages, the primary caregiver, "the statement given in medical history, physical examination detected in lesions in the emergency room" was remarkable features. When a physician suspects physical child abuse, it is important to perform proper clinical approach. In suspected cases of child abuse, primary medical approach is to perform life-saving medical approach urgently. Using appropriate medical algorithm in a living child suspected of having undergone abuse is important. As seen in the present case, obeying universal clinical forensic medicine principles such as interviewing with the patient or witness alone was important for the appropriateness of the forensic investigation. In the present case, another important observation was that the forensic history of the witness was not always reliable; hence, practitioners must have high awareness levels about detecting child abuse cases claimed to have occurred because of accidental injury. In living cases of suspected abuse, detailed internal and external examinations must be conducted. The radiological screening for bones and inner organs, ophthalmologic examination for retinal injury, and psychiatric examination for psychological problems must be performed in consultation examinations. It should be kept in mind that retinal hemorrhages in a child could be related with leukemia, hypertension, meningitis, elevated intracranial pressure, cardiopulmonary resuscitation, or accidental head injuries (8). Child psychiatry clinical examination is required for the psychological evaluation of a child. Also, judicial authorities and social services must be informed about the case for further investigations. It is not only sufficient to perform appropriate medical treatment of an abused child but also import to establish adequate surveillance systems for detecting the causes of the forensic events in emergency services. Continuous monitoring of the child abuse cases and the catastrophic effects of child abuse (social, physical, and psychiatric) by digital surveillance systems also would help to ensure the effectiveness of the prevention programs.

Conclusion

In patients with suspected physical abuse, it is essential to take the medical history in a quiet environment. The physician must take the medical history of the patient and witnesses separately. Comparing the physical findings of the case with the history of the forensic event taken from patients and witnesses can give us valuable clues to clarify the manner of the forensic event. In addition, the physical

properties of the ground (stone, carpet, flooring, etc.), the details of the accident history, and net height should be questioned. A delay in attending the health facility, uncertain medical histories of witnesses, and/or an implausible explanation for the mechanism of injury should always raise suspicion. Psychosocial examination and follow-up of the patient must be performed; if necessary, the child should be taken under protection. In addition, interdisciplinary cooperation will be beneficial in the realization of an adequate medical approach toward a child abuse case.

Peer-review: Externally peer-reviewed.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study has received no financial support.

Acknowledgement: Forensic Medicine Institution of Turkey contributes to the scientific development efforts according to rules of the medical ethics. In this context, due to the support and permission given during the preparation of the present scientific study, we thank to the Institute of Forensic Medicine.

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