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Shaken baby syndrome—what convicted perpetrators report

Introduction

Shaken baby syndrome (SBS) is a well-known phenomenon, which is frequently reported among forensic and pediatric experts the world over. In Germany between 100 and 200 cases of SBS are assumed per year [1]. The SBS weighs in as the most severe form of child abuse and is the most frequent unnatural cause of death in babies and toddlers [2]. The pathophysiological and biomechanical mechanisms are not yet fully understood, which leaves room for discussion and controversies, e. g. about the existence of SBS in general, most especially in court [3]. The main topics of this discussion refer to whether the damage detected can be alternatively ascribed to have been caused by a fall from a short distance [4] or minimal trauma by causes, such as pre-existing conditions or whether subdural hematoma, retinal bleeding and diffuse axonal injury can be generally caused by hypoxia from any source [5–7]. Individual symptoms are sometimes picked out and interpreted as pathognomonic or are explained by rare differential diagnoses. It is important to recognize the individual symptoms as being suspicious but that the constellation of symptoms (sometimes with the lack of one symptom), together with clinical aspects of abuse and the exclusion of differential diagnoses, underline and confirm the diagnosis of SBS [3].

A strong aspect to underline the existence of SBS is a perpetrator's confession, which has rarely been published [8–13] and is possibly a result of rare confessions at court. Here we report on two cases of confirmed SBS with material, in one case from an interview with the perpetrator and a broad confession from the perpetrator in the other case.

Case reports

Case 1

During the clinical examination, a 17-month-old girl showed signs of a severe epileptic seizure. The following injuries were additionally described in the hospital notes: subdural hematoma, diffuse brain injury with extensive cerebral infarcts, cerebellar infarcts, brain swelling with herniation of the cerebellum, residues of older subdural hemorrhages in both frontal lobes, progressive hydrocephalus, retinal bleeding and swelling of both optic nerves. A forensic examination revealed recent effects of blunt force trauma in the form of multiple small hematomas on the forehead, temples, cheeks, mandible, neck and back, along with petechial hemorrhages in front of both ears. As a result the child appears to have been severely impaired, having undergone several surgical procedures, being switched between hospital, rehabilitation center and a children's hospice and died 4.5 months after being shaken. The autopsy showed a child of 84 cm in height and only 9500 g in weight and extensive cerebral softening, whereas especially in the right hemisphere only a hardened mantle of cerebral cortex was left. Only the left hemisphere was softened. Additionally, increased cerebrospinal fluid and surgical removal of cerebellar tissue with implantation of ventricular drainage could be found with no additional abnormal development or pathological changes of the internal organs.

After the perpetrator had confessed to the crime, he was sentenced to 6 years and 6 months imprisonment by a regional court. In an interview composed of 23 self-formulated general and specific open questions and conducted 1 year after the conviction, the perpetrator described details of how the child had been shaken. The perpetrator was 24 years old (23 years at the time of the crime), 185 cm in height with a weight of 84.4 kg (67 kg at time of crime). He had never before heard of shaking a baby but reported having perhaps seen something about it on television. The child's mother left the flat one and a half hours before the event. During her mother's absence the child cried the whole time. The perpetrator tried all the usual methods to soothe the child without any success. He then shook the child, who was sitting on his knees, back and forth violently and rapidly, with its head going back and forth 2 or 3 times per second for at least 10 s. The baby's chin did not touch the breast, instead the head had gone down to the front without impact. Immediately after shaking the child stopped crying. Her fingers were clenched, her hands twisted inwards (so-called main d'accoucheur) and her head hung limply down to one side. She began to breathe in deep and labored patterns (so-called Kussmaul breathing), her eyes rolled back and her body began to cramp. The mother arrived back home again 20 min later and almost immediately (approximately 1 min) recognized that something was wrong and a further 3 or 4 min later an emergency ambulance service was called.

The perpetrator described his mood directly before the shaking incident as feeling upset, overwhelmed and fright-

ened. He spoke about how he had shaken the baby as he wanted to have peace and quiet and that after the shaking the child had become quiet. He had not punished the child in other ways, as the results of slapping or choking would have been visible (according to his own words). At the time of the incident he was unemployed, was unable to get a job, was not able to provide for his small family and referred to himself as being good for nothing.

Case 2

The parents presented at the hospital with a 12.5-month-old girl on foot accompanied by both of their other children. The first clinical examination of the girl showed acute dyspnea, bradycardia, neurological salience with the gaze movement of both pupils being downwards and inwards. The following additional findings were observed: subdural and subarachnoid bleeding, brain swelling, extensive cerebral infarcts in the catchment area of the three main cerebral arteries with an emphasis on the left cerebral hemisphere and midline shift, retinal bleeding and edema. The forensic examination showed small fresh bruises on the forehead and cheeks as a consequence of a strong hand grip for fixation and older bruises on the legs and lateral trunk. The child died 3 days later of cerebral death caused by malignant cerebral edema as a result of a traumatic brain injury. The autopsy revealed a child 79 cm in height and weighing 8900 g with bleeding in the musculature of right lateral thorax and intercostal muscles, with corresponding lung contusions. The autopsy of the brain showed excessive brain edema with signs of incarceration and extensive subdural hemorrhage with an emphasis on the left hemisphere, interhemispheric regions along with cerebellar tentorium of nearly all bridging veins. In addition, retinal bleeding was found.

The perpetrator, who was 20 years old at the time and was 189 cm in height with a weight of 95 kg, was psychiatrically evaluated prior to the court hearing. He was the father of the abused child and had a stepchild who was approximately 3 years older than his daughter. In the psychological testing he showed a slight transient depression, cannabis abuse and a below average intelligence level. He was never convicted on violent crimes before, but stated that the shaking episode was not the first act of violence that he had committed against the child and stepchild, which is why the child protection service and the mother reached an agreement that he would not be left unattended with his daughter. He described his general relationship with his daughter as good but became enraged when his daughter and stepchild began screaming. On the day he shook his daughter he had also suffocated his stepchild until the child developed visible petechiae on her face. He admitted to smoking cannabis on that day as he felt overwhelmed by his job at the German Armed Forces, as well as the ongoing conflict with his girlfriend. The verdict contained comprehensive statements about the course of events: during her mother's absence the child started to scream. The perpetrator went into the baby's room and noted that she had vomited and had a full diaper. He became angry and smacked her on her back with his flat hand. The child did not cease screaming, so he grabbed her thorax with both hands, picked her up and shook her heavily back and forth for at least 5 s. The child's head was tossed around erratically and bumped against her back. At this point he knew (from information seen on the television and in the newspaper) that this treatment could be fatal for an infant. After being shaken the girl stopped screaming. The perpetrator was convicted to 10 years in prison.

Abstract · Zusammenfassung

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Abstract

Shaken baby syndrome (SBS) is a well-known phenomenon in the field of forensic and pediatric experts; however, there are difficulties and controversies when it comes to biomechanical reconstruction as neither experimental studies nor independent witnesses exist. A possible source of information comes from perpetrators' confessions if available. We present two cases of confirmed SBS, where one includes a broad confession and the other contains an interview with the perpetrator who confessed to the crime. Both perpetrators reported similar social environmental situations (overwhelmed by crying children) and similar descriptions of how the child was handled (hands on both sides of the thorax, shaken back and forth). Both children ceased crying after being shaken and died despite medical treatment for the injuries.

Keywords

Child abuse · Interview · Broad confession · Witness · Biomechanical reconstruction

Schütteltrauma – was verurteilte Täter berichten

Zusammenfassung

Das Schütteltrauma („shaken baby syndrome" [SBS]) ist ein bekanntes Phänomen in der forensischen und pädiatrischen Expertengemeinschaft. Es gibt jedoch Schwierigkeiten und Kontroversen bei der biomechanischen Rekonstruktion, da es weder experimentelle Studien noch unabhängige Zeugen gibt. Eine mögliche Informationsquelle sind die Geständnisse der Täter, sofern vorhanden. Wir stellen 2 Fälle von bestätigtem SBS vor. Der eine beinhaltet ein „breites Geständnis", der andere ein Interview mit dem geständigen Täter. Beide Täter berichteten über ähnliche soziale Umweltsituationen (überwältigt von weinenden Kindern) und ähnliche Beschreibungen, wie das Kind behandelt wurde (Hände auf beiden Seiten des Brustkorbs, hin und her geschüttelt). Beide Kinder hörten nach dem Schütteln auf zu weinen und starben trotz medizinischer Behandlung an ihren Verletzungen.

Schlüsselwörter

Kindesmisshandlung · Interview · Geständnis · Zeugen · Biomechanische Rekonstruktion

Discussion

The main attribute of analyzing interviews from confessed perpetrators is to gain knowledge on the mechanisms of shaking. Both cases presented in this article show typical aspects of SBS, both in the social context as well as in the actual act of shaking. The two perpetrators were both young and experiencing problems in their relationships (arguments and aggression) with the mothers of the victims. Both claimed a pre-existing good relationship with the abused children and belonged to the group who most frequently commit abuse (fathers and boyfriends) [10]. At the time of the event, the perpetrators were alone with the children and both described themselves as being overwhelmed by the situation and the fact that they could not get the baby to stop crying. The perpetrator in case 2 had also smoked cannabis. Both victims were older than the typical victims of SBS (cf. mean age of infant victims in [11] is 5.98 months). In contrast to other reports in the literature this article presents two cases with female victims, whereas e.g. Starling et al. [10], Biron et al. [11] and Adamsbaum et al. [12] reported mostly male victims. Both girls presented an immediate onset of symptoms with the typical triad of symptoms. In particular, the immediate onset of symptoms or the missing lucid interval after shaking, as reported in these cases and described in the literature, seem to be typical for shaking events [13]. Both initially survived but subsequently died of cerebral impairment. In contrast to the available literature [12] where only hypoxic ischemic alterations of cerebral parenchyma were found, the victims reported here showed increased alterations with infarction of cerebral and cerebellar parenchyma during the survival period. Neither of the girls had presented with any abnormal development or additional pathological changes of internal organs at autopsy. These two cases belong to the minority (approximately 20%, according to a related study performed by Starling et al. [10]) of such incidents that include a fatal outcome [8]. Both perpetrators reported the same procedure of shaking but different intervals and frequencies with different results on the movement of the child's head. In one published case the perpetrator described the same arrangement of holding the child with both hands but described a longer period of shaking (10–30 s) in multiple bursts, during which the child's chin bumped against the chest [9].

In summary, the cases are similar with respect to background, mechanisms and detectable results. Details about the period of shaking and about the resulting symptoms immediately after the incident, can only be gained by analyzing the interviews, as no witnesses are available in the majority of cases; however, it has to be taken into consideration that perpetrator admissions are not scientific evidence [12]. Nevertheless, confessions, statements and interviews occasionally provide further information about the course of events. Differing statements given by the perpetrator at different times can be due to memory gaps, embarrassment and a self-serving declaration, such as playing down the event of shaking [11] or a misunderstanding between the perpetrator and the interviewer/court/police or simply a lie to avoid punishment. Obtaining the fundamentals of SBS by analyzing confessions, verdicts or interviews are almost without alternative, as experiments are out of the question and software models without real data are virtually useless. Besides medical examinations, evidence can be obtained through such interview cases [14].

To understand SBS and its biomechanical and social background, particularly any details about the period of shaking and the onset of symptoms, such interviews with convicted perpetrators are invaluable. Analysis of future cases would give the opportunity to structure and compare a greater accumulation of data.

Conclusion

- **The main attribute of analyzing is to gain knowledge on the mechanisms of shaking.**
- **The immediate onset of symptoms after shaking seems to be typical for shaking events.**
- **No witnesses are available in the majority of SBS cases.**
- **To understand SBS, interviews with convicted perpetrators are invaluable.**
- **It also has to be taken into consideration that perpetrator admissions are not scientific evidence.**

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Compliance with ethical guidelines

Conflict of interest. K. Feld, S. Banaschak, H. Remschmidt and M.A. Rothschild declare that they have no competing interests.

This article does not contain any studies with human participants or animals performed by any of the authors. Informed consent was obtained from all patients identifiable from images or other information within the manuscript. In the case of underage patients, consent was obtained from a parent or legal guardian.

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Buchbesprechung

Nikolaus von Bar

Gesetzlich nicht normierte ärztliche Auskunfts- und Offenbarungspflichten

MedR Schriftenreihe Medizinrecht

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Mit dieser juristischen Promotionsarbeit aus dem Jahr 2013 hat sich der Autor auf 195 Seiten intensiv mit Fragen zur umstrittenen Rechtsfigur der medizinischen Grundaufklärung befasst. Zutreffend wird bereits zu Beginn (S. 3) bemerkt, dass der Gesetzgeber die Grundaufklärung im Zuge der Gesetzesreform durch das Patientenrechtegesetz mit keinem Wort erwähnt hat (siehe auch BR-Drs. 312/12 sowie BT-Drs. 17/11710 und 17/10488). Im weiteren Verlauf des Buches (z. B. Aufklärung über Behandlungsalternativen (S. 109 ff.) oder zur Sicherungsaufklärung (S. 175 ff.)) wird aber auf die neuen Vorgaben im BGB, z. B. Aufklärungspflichten über Behandlungsalternativen nach § 630e Abs. 1 S. 3 BGB oder die Informationspflichten nach § 630c Abs. 2 S. 1 BGB, nicht mehr eingegangen.

Dezidiert führt der Autor die vielfältigen Begriffe im Kontext der Aufklärung an und grenzt die Grundaufklärung zur Aufklärung im Großen und Ganzen ab. Zudem unternimmt er einen Definitionsversuch zur Grundaufklärung, bei der er weder die Dringlichkeit noch Behandlungsalternativen berücksichtigen möchte und zudem auf eine „allgemein verständliche Wissensvermittlung im Großen und Ganzen" (S. 161) abstellt. Aufgrund der Vorgaben im BGB und den Ausführungen in den Gesetzesmaterialien zum Patientenrechtegesetz dürfte sich der Definitionsversuch von Schenk zur Rechtsfigur der medizinischen Grundaufklärung in der Praxis kaum durchsetzen können. Hier ist auf die nicht enumerativen Angaben zu den Aufklärungs- und Informationspflichten im Gesetzeswortlaut zu verweisen (z. B. §§ 630c Abs. 2 S. 1, 630e Abs. 1 S. 1, 2 BGB). Für die Aktualität des Buches (Erscheinungsjahr 2015) wäre es sicherlich hilfreich gewesen, die Änderungen durch das Patientenrechtegesetz aus dem Jahr 2013 stärker einzubeziehen. Hierbei ist wohl zu berücksichtigen, dass es zur sicherlich unglücklichen Überschneidung mit dem Abschluss des Promotionsvorhabens und der Gesetzesreform gekommen ist. Das Buch von Schenk eignet sich für akademische teilweise historische Diskussionen über unterschiedliche Aspekte der (Grund-) Aufklärung, empfiehlt sich gerade wegen der fehlenden Aktualität im Hinblick auf die Änderungen durch das Patientenrechtegesetz für den praktisch tätigen Rechtsmediziner aber nicht.

Markus Parzeller, Frankfurt