

Battered child syndrome in paramedic practice

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Summary:

Medical emergency team often has contact with an abused child as the first one among medical services. Their task is to provide first aid as well as recognize various symptoms associated with possible child abuse.

In this study we presented forms of child abuse comprising the battered child syndrome and signs of child's behavior associated with this syndrome.

Key words: disaster, disaster medicine, rescue, rescuer, prophylaxis, disaster classification.

Domestic violence occurs in a variety of forms — one of them is child abuse. In 1961 American Academy of Pediatrics introduced the term 'battered child syndrome' for defining health and psychophysical disorders occurring in abused children.

To this day there are alternative terms used in literature, such as 'parent-infant syndrome', 'child maltreatment', 'child abuse', 'child neglect' or 'household violence'.

In 1985 on World Health Organization (WHO) board meeting a definition of Child Abuse was established.

Child abuse or maltreatment is defined as every intended or unintended action of an adult, society or state, which has a negative impact on child's health and physical or mental development.

Child abuse consists of [1]:

1) physical abuse, maltreatment,

2) sexual abuse,

3) emotional abuse,

4) nutritional, physical and emotional neglect,

5) neglect of medical care.

Numerous studies show that the victims of child abuse are most often infants and babies under three years (36,4% and 35,3%, respectively) [2].

Boys experience violence from parents more often (66%) than girls; apart from that, they experience more violence: they are kicked, punched with fists and hit with various objects [2,3,4].

Physical abuse — symptoms and consequences

Physical abuse is usually associated with severe corporal punishment with use of great strength, usually during emotional agitation; it is inflicted either under influence of alcohol or drugs,

or with full awareness, or even sadism. Physical abuse includes also forcing a child to exertion beyond their capabilities, confining them in closed rooms, immersing in hot water, burning with cigarettes or hot objects, and attempts of poisoning.

Several symptoms indicate physical violence [4,5] :

- hematomas, bruises and swelling located on the face, chest, back, shoulders, buttocks and legs,
- handmarks caused by violent shaking and grabbing a child,
- pulled hair, knocked-out teeth,
- burn marks, most often spots after putting out cigarettes, “sock” burns on the legs, crotch (weaning off diapers), chin, nose (burning with lighter), strangle or bond marks,
- bruises - very often numerous, in different stages of healing,
- cut or puncture wounds,
- abdomen injuries and associated symptoms from digestive system,
- difficulties in walking and sitting,
- frequent fractures, especially spiral and multiple (usually rib and upper and lower limbs fractures),
- head injuries caused by hitting hard surface with child’s head.

Head injuries are the result of physical abuse in mostly small babies, especially infants. It was showed that 95% of severe intracranial injuries in children under 1 year and 64% of all skull injuries was caused by maltreatment [3].

These types of injuries result in paresis, epilepsy, blindness and developmental delay.

In case of abdomen injuries (kicking, punching with fists) high mortality is noted. They include abdominal organs damage and bleeding due to liver, pancreas and spleen damage.

Physical abuse affects child’s further life. The results of physical abuse include anxiety reactions, problems with learning, low self-esteem, lack of faith in one’s abilities, lack of self-acceptance, excessive maturity for one’s age, problems with making new connections, child’s disability or death.

Shaken baby syndrome

In 1972 a radiologist John Caffey introduced the term ‘shaken baby syndrome’ and described the following set of symptoms present in violently shaken infants: bleeding to retina, retinal detachment, subdural and subarachnoid bleeding with no cranial injuries present. During shaking a baby the brain moves in the skull forward and backward, which leads to vein injuries and extravasation to the brain tissue, as well as hitting the brain. Symptoms can indicate meningitis.

Most common symptoms of shaken baby syndrome are seizures, drowsiness and vomiting. Shaking a child can result in irreversible neurologic changes, vision and hearing defects, permanent brain damage, death, spastic paresis, psychomotor developmental delay, epilepsy, blindness and brain atrophy.

Shaking is rarely accompanied by external injuries, therefore it is difficult to assess at first glance whether a child is a victim of maltreatment. The symptoms are affected by the frequency and force of shaking [6].

Münchhausen syndrome by Proxy-MSBP

The term **Münchhausen syndrome by Proxy** was introduced in 1977 by English pediatrician Roy Meadow, who named psychiatric disorder of two mothers, who thought up and induced disease symptoms in their children [7].

Term Münchhausen syndrome by Proxy was first used in 1951 by English doctor hematologist and endocrinologist Richard Asher in his publication: Münchhausen’s syndrome [8]. He named psychiatric disorder in adult patients, who deliberately inflicted disease symptoms in themselves or pretended they are sick in order to enter the role of a patient and draw medical staff’s attention to themselves. In order to define this syndrome Asher used the name of Karl von Münchhausen, a German officer working for Russian navy, living in 18th century, who was famous for telling fantastic and imaginary stories about himself.

Münchhausen syndrome by Proxy is a psychiatric disorder and potentially lethal form of abusing

children or other people, including adults being in the care of the abuser [9,10].

This disorder includes reporting by mother allegedly present symptoms in her child. Sometimes mothers themselves inflict a disease or its symptoms in a child.

Most common symptoms reported in a child are related to digestive, circulatory and neurologic systems: stomachache, vomiting, weight loss, seizures, dyspnea, infections, fever, bleeding, poisoning and drowsiness. The most dangerous cases are associated with great aggression: in such cases **symptoms are induced by administration of poisonous substances, unnecessary drugs or by strangling the child**. Child's hospitalization not always terminates this sequence of events. Usually, mother continues her behavior in a hospital. If an abused child has siblings, there is a high probability they are also victims of Munchhausen syndrome by proxy. This syndrome should be suspected when a child is admitted to a hospital but etiology of their disease is unknown, or when the same family member - usually mother - is present during subsequent, sudden health deteriorations. The incidence of MSBP is unknown. Epidemiological reports include usually only the most severe cases of the syndrome. In USA around 1200 cases are reported annually. In Poland several cases of MSBP victims are reported annually, but the real incidence of this type of maltreatment is unknown. The following symptoms or parent's behavior indicates the possibility of Munchhausen syndrome by proxy presence:

- unexplained chronic or recurring child's disease,
- a victim of MSBP is frequently hospitalized, often due to atypical symptoms,
- child's disease seems to be a multisystemic, chronic, atypical or rare one,
- symptoms do not comprise a known syndrome or do not fit to diagnosis,
- general health status does not correspond to laboratory test results,
- if there is a diagnosis, it was made after visiting several medical centers,
- numerous allergies are suspected or diagnosed,
- intravenous catheter is infected by numerous bacterial strains,

- there is a drug present in child's blood sample, that has not been administered,
- blood group in urine, feces or vomit samples does not match child's group,
- there are traces of chemical substances detected in child's blood, urine or feces,
- common initial diagnoses include: epilepsy, ataxia (movement and balance coordination impairment), limb pareses,
- seizures, which do not react to antiepileptic drugs, and their presence is based only on mother's or child's statement,
- symptoms relieve during the absence of parent or caretaker,
- during hospitalization a child is being visited only by one of their parents,
- there is a family history of unexplained children's diseases or deaths,
- a child does not tolerate the applied treatment, adverse events occur easily during therapy, such as frequent vomiting, rash and so on,
- a parent has considerable medical knowledge,
- a mother has a medical occupation or there is a history of her numerous diseases (she induces disease symptoms in herself as well),
- mother seems to be extremely affectionate and caring for a child, often reports lack of therapy tolerance,
- there were cases of unexplained neonates' deaths in child's family,
- parent encourages vigorously a doctor to perform multiple tests, which often leads to excessive (without sufficient proof) differential diagnosis.

A MSBP victim

The victims of the syndrome are usually neonates, infants and small babies. The average age of an abused child at diagnosis of MSBR is according to different investigators: 39, 32 or 20 months [9,10].

Mother's actions are intentional and planned, but their forms vary in different age groups, as she does not want to be exposed. The victims of strangling are small babies who cannot talk and judge mother's actions yet, and therefore will not complain. Meadow assessed that mothers begin to strangle their children during their first 3 months of life and continue these actions for 6 – 12 months or to child's death [7]. How-

ever, teenage children can also be abused; they often confirm symptoms described by mother, because of fear or subjecting to her persuasion that they have some mysterious disease that cannot be diagnosed by doctors. A person suffering from MSBP inflicts more in a child often a somatic than psychiatric disease. Mortality incidence of children abused by persons having MSBP is 6-10%. Death can be a result of direct parent's actions or a side effect of commissioned by doctors invasive diagnostic tests. Long-term injuries are reported in 7,3% of children [9].

Psychiatric disorders are frequent in abused children (behavior disorders, attention disorders, mental disorders, anxiety induced by various situations or places, sleep disturbances, PTSD).

Sexual abuse

Sexual abuse consists of forcing a person — a child — to sexual acts against their will and continuing sexual activity with a child who is not aware of the situation. It also includes sexual activity with a person who is afraid to refuse or is not asked for permission. Sexual abuse is often associated with physical and emotional abuse.

Forms of sexual abuse can be divided into 2 groups:

- 1) without physical contact: a conversation with included sexual content, exhibitionism, fetishism, voyeurism, showing pornographic photos to a child, showing a child to adults in order to satisfy their sexual needs, forcing a child to watch sexual acts;
- 2) with physical contact-an intercourse with a child or its attempt (vaginal, anal, oral, intercrural), groping.

Children can be abused by people from their neighbourhood, such as acquaintances, neighbours, relatives or close family members — in this case it is called incest.

Sexually abused children most often hide this fact due to shame. As a result it is difficult to recognize this form of abuse; persons from the closest neighbourhood, who can more easily notice worrisome symptoms, play a crucial role - it can also be a pediatrician, nurse, school pedagogue or P.E, teacher [11].

Sexual abuse symptoms: genital injuries, perianal and vaginal injuries; genitourinary organs swelling, grazes and pain; pain during urination or defecation; oral cavity infection, difficulties in walking or sitting, reluctance to changing clothes for P.E. classes, in case of small babies wetting, thumb sucking; sleeping disturbances, parasomnia, decreased appetite, alienation, problems with concentration, learning, making connections with peers [11].

Psychological abuse (emotional)

Psychological abuse is one of the most elusive forms of child abuse.

Typical behaviors of psychological abuse include:

- omission of a child (lack of interest in child's needs),
- isolation - forbidding playing or contact with peers and making connections with people,
- home atmosphere is full of nervousness, fear and anxiety; humiliation, mocking and verbal abuse of a child,
- persuading a child to engage in destructive behaviors and breaking social rules, which often leads to conflicts with law and society.

Psychological abuse is represented by a variety of forms of overprotection, such as: setting of high demands, excessive control, lack of privacy, forcing loyalty. It also includes excessive doing for children their tasks and replacing it with parent's own activity, forcing children to fulfill parents' own unfulfilled dreams.

Psychological abuse can be recognized by noting the following symptoms:

- frequent headaches and stomachaches,
- sucking a thumb, biting one's nails, wetting,
- weepiness, irritability, constant sadness, alienation,
- increased aggression, frequent fights, destructive behaviors,
- difficulties in concentration, learning, speech disturbances,
- lack of self-acceptance, feeling of constant threat, anxiety,
- suicidal attempts[12].

Neglected child

Neglecting a child is associated with not meeting child's basic needs. Parents' and caretakers'

duties include: providing sufficient amount of food for normal child development, appropriate housing, clothes for various weather conditions, protection and supervision of a child, health care access, medical compliance. A neglected child is a form of child maltreatment, which is most easily recognized by neighbourhood, especially teachers and doctors.

Symptoms and consequences of a child neglect

Child neglect can be manifested in a variety of ways and not all its symptoms have to be obvious and visible as a neglect. Mother has an impact on her baby already during pregnancy and her negligence can affect negatively the whole future life of her unborn baby, or even lead to miscarriage. Neglecting an infant can result in poor muscle tone, problems with gaining weight, reluctance to making eye and verbal contact, lack of emotional reactions, e.g. crying.

Children neglected in early stages of life have problems with speech development and poor motor skills.

Significant problems begin at school age; neglected children are less socialized compared to their peers. Delayed speech development leads to problems with making new connections and isolation. Neglected children feel different, ashamed and harmed, and they respond by decreased self-esteem and lack of self-acceptance.

They often try to “become independent” early. Attempts to do that include most often running away from home, early onset of sexual activity, contacts with criminal groups and conflicts with the law [13].

Diagnosis of battered child syndrome

Battered child syndrome can be most quickly recognized by people who have frequent contact with a child: other family members, teachers, pediatrician, nurse or medical emergency team, which often has contact with abused child as a first among medical services. BCS diagnosis is difficult, as parents often cover up visible injuries

and explain them with children’s energy. Physical abuse is characterized by the sites of injuries. They are located at sites, where a child alone cannot cause them, even when being very active. Marks after hitting with a hand or a hard object are visible usually on the face, back, buttocks, chest or rear parts of legs.

BCS diagnosis can be supported by distinguishing, deliberate fractures, such as: metaphyses fractures (usually bones of the ankle, knee or shoulder joint), rib fractures (usually in posterior and paraspinal parts), sternum fractures, vertebral fractures, skull fractures (usually numerous). Fractures in children over four years are usually accidental, but in children under four years are most often a result of abuse. BCS should be suspected in every child under one year with a fracture [5,14]. Fractures due to abuse occur in different stages of healing. Time of bruise onset can be described by their colour; in the beginning it is red, then blue (after around 6h), then after 12 – 24 h black or purple. During the next few days a bruise become greenish, then yellowish and finally disappears. It should be kept in mind that strange-looking bruises can appear due to a disease, such as ‘mongolian spots’. Bites and hitting with belt buckles result in particular marks on the body. Marks at wrists may suggest that a child was bonded, and marks near mouth — that it was gagged.

There are some characteristic marks for children abuse — after burning with cigarettes (round, most often on the hands, buttocks, soles of the feet) and other, leaving the shape of an object on the body.

Shaken baby syndrome is hard to recognize, as there are no external injuries present; only vomiting and seizures can be observed. The effects of shaking a baby in the form of brain contusion, subdural and subarachnoid hematomas can be confirmed only after performing thorough examination. When examining a child with suspicion of shaken baby syndrome, one should pay attention to bleeding into the eyeball, retina and vitreous humour [6].

The consequences of sexual abuse are sometimes visible, but often remain unrecognized. That is why the most common source of knowledge about sexual abuse is child’s complaint.

Psychical abuse is a form of children abuse which is most difficult to diagnose. The reason is that there are no visible external signs of maltreatment. These children usually become alienated, have behavioral problems and symptoms of depression. They avoid verbal and physical contact with others, which is a manifestation of low self-esteem.

A neglected child is often linked with parents' poor domestic and social conditions. A neglect can be identified through child's appearance. One should especially pay attention to children that are malnourished, dressed inappropriately for the weather or not performing hygiene habits.

Detection of child abuse is most difficult when the abusers are close family members. In the closed environment there is often a strong relationship between the abuser and the victim [2,3].

When managing the abused child one cannot count for parents' help - for obvious reasons; however, it is important that the paramedic controls emotions and doesn't show to them anger, disapproval, blaming or aggression. The paramedic should focus all the attention on helping a child and provide a maximal sense of security. One should also remember about the necessity of notification the law enforcement in these situations.

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