Physical abuse in the newborn with congenital hypothyroidism: A Case report

Made Mulya Cintyadewi Satriawan\textsuperscript{1,}*, Soetjiningsih\textsuperscript{1}, I Gusti Ayu Trisna Windiani\textsuperscript{1}, I Gusti Agung Ngurah Sugitha Adnyana\textsuperscript{1}, Ni Luh Sukma Pratiwi\textsuperscript{1}, Ida Bagus Putu Alit\textsuperscript{1}

\textbf{ABSTRACT}

\textbf{Background:} Global estimates of child homicide suggest that infants and young children are at most significant risk, with rates for the 0-4-year age group. Physical abuse of a child is defined as the intentional use of physical force against a child that results in or has a high likelihood of resulting in harm to the child's health, survival, and development.

\textbf{Case presentation:} Here presented baby 0 days old with a wide laceration on the neck. The baby was born spontaneously in the bathroom. The baby was brought in with an injury to the neck area with a two-wound size of 4cmx3cm and a scratch mark on the stomach. The mother said that the baby was fallen and hit by ceramic after the baby was delivered. At the hospital, 10 hours after birth, pediatric surgery did the debridement procedure by primary healing. This case handled by the Integrated Service Center for the Empowerment of Women and Children, the edge of the wound is sharp, flat, with many angles, and the number of wounds is more than one, indicating sharp violence carried out by sliding.

\textbf{Conclusions:} The outcome of child abuse can result from short and long term consequences. At the same time, there are child protection policies that protect the child from any abuse.

\textbf{Key Words:} Child abuse, neglect, protection policies.


\textbf{INTRODUCTION}

Child abuse is children’s harming actions by adults, which are frequently reported nowadays in every society. Any abusive action, like physical, emotional, or sexual harm, is included. Notably, inaction abuse, such as neglect, also belongs to child abuse.\textsuperscript{1} The Child Abuse/Neglect Hotline Unit (CANHU) stated that there were over 55,000 reported involving over 78,000 children in Missouri. They obtained various fluctuations of the reports, while during the COVID-19 pandemic, there were about 4,654 reports involving 6,527 children in total.\textsuperscript{2}

There are various forms of abusive or offensive behaviors, and all of them will affect the emotional side of the children. Children can develop insecure, uncared, and lonely through abusive acts like a slap, a cruel remark, and gritty stillness. Commonly, there are four mainly defined forms of child abuse, i.e., physical abuse, neglect, emotional abuse, and sexual abuse. However, most child abuse cases can involve more than one abuse form, whether the child just reported suffering from one type of abuse.\textsuperscript{1} Physical abuse is defined as any acts which harm and cause physical injury. Since physical abuse is unforeseen, ranging from minor bruises to brutal fractures or death to hurt the child from the caretaker.\textsuperscript{1}

The consequences associated with child physical abuse go beyond what many people think of initially. Child abuse also could affect the behavioral, emotional, and psychological, despite the physical impact. Research has found links between physical abuse, depression, and aggressive behaviors, but the relationship among these variables appears different when looking at men versus women.\textsuperscript{3} Several studies have reported that child physical abuse is a noteworthy predictor of depressive symptoms.\textsuperscript{4} Children who have been physically abused may still feel the effects long after their injuries have healed. Being shaken, hit, or physically abused in any way as a child can lead to poor physical or mental health later in life, including depressive disorders, anxiety disorders, eating disorders, childhood behavioral or conduct disorders, drug use, suicide attempts, obesity, sexually transmitted infections, and risky sexual behavior.\textsuperscript{5}

The problem of violence against children is a global problem related to human rights. According to data from the Indonesian Child Protection Commission (KPAI), the highest cases of violence...
against children were in 2013, with a total of 1,615 cases. In 2011, there were 261 cases, and in 2012, there were 426 cases. For data in 2014, from January to August, there were 622 cases consisting of physical violence, psychological violence, and sexual violence. There were more than 94 cases of physical violence, 12 cases of psychological violence, and 459 cases of sexual violence. The data shows that the number of violence against children has been increasing from year to year. Komnas Anak also noted that the number of violence against children had increased from 2010, when there were 2,413 cases, and 2011 there were 2,508 cases.

Children’s rights are part of human rights (HAM) regulated in the 1945 Constitution of the Republic of Indonesia (1945 Constitution). From the perspective of national and state life, children are an integral part of a country; children are also the young generation who will continue to realize the nation’s ideals. So that children have the right to live, grow, develop, and optimally follow their rights to protection from all kinds of acts of violence. Indonesia is a country that upholds human rights (HAM) and has been regulated in Law no. 39 Years 1999. Besides that, it is also regulated in Law No. 23 of 2002. The law deals with human rights and protection for children, which are substantially sufficient to accommodate children’s rights. In general, the protection of children is divided into two, namely legal protection and non-judicial protection. Protection that has a juridical nature includes all legal regulations that can regulate the child’s life. Meanwhile, non-juridical protection covers the health, education, and social sectors.6

**CASE PRESENTATION**

Baby girl 0 days born spontaneously, helped by her mother. Babies born are said to cry immediately. The baby was born in the bathroom at 05.00 am. Mothers said, when the baby fell and hit the bathroom after the baby was born. Babies born to mothers with their first pregnancy and gestational age unknown. The baby was then taken to Klungkung Hospital and given dextrose 10% therapy, ampicillin 125mg every twelve, and gentamicin 7.5mg every twenty-four. The baby was referred to the surgical emergency room and then consulted to the children’s department for post-debridement, hectic NICU care. The patient’s mother knew about her pregnancy but never checked her pregnancy. Baby born to unmarried couples. On admission to the emergency room, there was no shortness of breath, lethargy, or temperature instability. Birth weight 2600 gram, head circumference 32cm, and body length 47cm.

Based on a physical examination of the right neck across from the front midline, there were two open wounds with sharp edges, many angles, and tissue bridging in the muscle base; when they were closed, they formed a line with a length of three centimeters and four centimeters respectively (Figure 1). On the mid-front-line of the transverse abdomen, there were abrasions covering an area of six centimeters and three point five centimeters, with the enormous wound in the form of a line four point five centimeters long and the minor wound in the form of a point (Figure 2).

Based on laboratory tests, it was found that leukocytes 33.83x10^3/µL, neutrophils 28.76 10^3/µL, lymphocytes 2.2x10^3/µL, hemoglobin 12.50g/dL, platelet 267x10^3/µL. Laboratory examination of thyroid function TSH 16.83uIU/mL, FT4 1.27ng/dL. Babygram examination with chest and pulmonary showed no abnormalities; currently, no bone fractures or joint dislocations in the thoracic and abdominal regions were visualized, and no ileus or pneumoperitoneum was seen (Figure 3).

**Figure 1.** Wound on the neck

**Figure 2.** Wound on the abdomen
The baby was performed debridement primary healing for 45 minutes. After the operation, the baby’s condition improved. The baby was given the antibiotic ceftriaxone 65 mg every 12 hours intravenously. The baby was treated in the NICU room for two days after healing debridement and then treated in the neonatal high care unit.

Pediatric and Neonatal Surgery treat the baby. The baby was consulted by the endocrine department and found to have subclinical hypothyroidism. The baby received thyroxine sodium therapy at a dose of 30mcg every 24 hours orally. During neonatal high care unit treatment, the baby can drink 50 ml every 3 hours. There is no history of seizures, nausea or vomiting. During care at neonatal high care unit, the baby was awaited by grandmothers from the father’s and mother’s side, but the mother’s side did not want to take care of the baby. The baby was hospitalized for 25 days. The Klungkung police are currently handling the case and are still under investigation by the police.

DISCUSSION

This case is violence against children. Based on the injuries in the case, there were injuries to the neck and stomach area. Based on the type of wound, it is a wound resulting from the violence of a sharp object. According to the nature of violence, sharp violence is violence that is often carried out using sharp objects such as knives, axes, razors, and others. Wounds caused by sharp violence include stab wounds, incised wounds, and chop wounds. The main feature of incised wounds compared to other wounds caused by sharp objects is that they are longer than deep because they occur due to the light pressure of a sharp object when rubbed on the skin’s surface. Thus, the length and depth of the incised wound do not inform the size of the causative sharp object. In cases based on physical examination, right on the transverse neck from the mid-front line, there are two open wounds with sharp wound edges, many angles, there is a bridge of tissue with a muscle base; if they are pressed together, they form a line with a length of three centimeters and four centimeters respectively. On the transverse abdomen on the mid-front line, there are abrasions covering an area of six centimeters and three point five centimeters, with the most extensive wound in the form of a line four point five centimeters long and the most minor wound in the form of a point. In the case of this type of wound, it is the result of sharp object violence.

The patient was diagnosed with subclinical hypothyroidism with a TSH of 16.83 uIU/mL and FT4 1.27ng/dL. Congenital hypothyroidism (CH) is one of the causes of mental retardation in children, which can be prevented if detected and treated early. Thyroid hormone plays a role in developing the central nervous system (migration and myelination). It is known that 95% of hypothyroid congenital do not show typical clinical signs and symptoms at birth and the duration of early intervention to prevent mental retardation. In term infants, normal TSH levels increase rapidly to 60-80 mU/L within 30 to 60 minutes after birth, then decrease rapidly to levels of 20 mU/L on the first day of birth and then gradually decrease to levels of 6-10 mU/L at the age of 7 days. Infants with TSH levels ≥ 20 mU/L and low FT4 are considered primary hypothyroid congenital. Infants should be examined immediately and given levothyroxine. The dose of levothyroxine aged 0-3 months is 10-15 mcg/kg/day. In some cases, levothyroxine 30mcg is given every 24 hours orally.*

Child abuse and neglect are serious public health problems and adverse childhood experiences (ACEs) that can have long-term impacts on health, opportunity, and well-being. This issue includes all types of abuse and neglect against a child under the age of 18 by a parent, caregiver, or another person in a

Figure 3. The babygram imaging. Babygram examination with chest and pulmonary showed no abnormalities.
custodial role (such as a religious leader, a coach, or a teacher) that results in harm, potential for harm, or threat of harm to a child. There are four common types of child abuse and neglect:

- **Physical abuse** is the intentional use of physical force that can result in physical harm. Examples include hitting, kicking, shaking, burning, or other shows of force against a child.
- **Sexual abuse** involves pressuring or forcing a child to engage in sexual acts. It includes behaviors such as fondling, penetration, and exposing a child to other sexual activities.
- **Emotional abuse** refers to behaviors that harm a child’s self-worth or emotional well-being. Examples include name-calling, shaming, rejection, withholding love, and threatening.
- **Neglect** is failing to meet a child’s basic physical and emotional needs. These needs include housing, food, clothing, education, and access to medical care.

Experiencing poverty can place much stress on families, which may increase the risk of child abuse and neglect. Rates of child abuse and neglect are five times higher for children in families with low socio-economic status compared to children in families with higher socio-economic status. At least 1 in 7 children have experienced child abuse and/or neglect in the past year, and this is likely an underestimate. In 2019, 1,840 children died of abuse and neglect in the United States. Children who are abused and neglected may suffer immediate physical injuries such as cuts, bruises, or broken bones, as well as emotional and psychological problems, such as impaired social-emotional skills or anxiety. Child abuse and neglect and other ACEs can also have a tremendous impact on lifelong health, opportunity, and well-being if left untreated. For example, exposure to violence in childhood increases the risks of injury, future violence victimization and perpetration, substance abuse, sexually transmitted infections, delayed brain development, lower educational attainment, and limited employment opportunities. Chronic abuse may result in toxic stress, which can change brain development and increase the risk for problems like post-traumatic stress disorder and learning, attention, and memory difficulties.

In Indonesia, a particular agency is now called Lembaga Perlindungan Anak (LPA). This institution serves as a child protection service agency in the USA. This agency can be found in almost every province. Suppose there is a child suspected of improper treatment. In that case, the doctor will report to that agency, and the staff will immediately consult the reporting doctor to find out if the victim will be safe if still living with his/her parents or if he or she needs hospitalization for injury treatment and further evaluation. Then, the parents or person suspected of being the abuser and the patient will be handled by one team to determine the short-term as well as the long term plans for this abusive family.

Wrong treatment contributes to death by 5% if the case is not interfered with by an agency member. 25% of the victims will get repeated severe injuries and can cause permanent disability, physically as well as intellectually, besides emotional disorders, behavior, other psychiatric problems, ataxia, hydrocephalus, organic brain syndrome, mental retardation, as well as the establishment of abused behavior.

**CONCLUSION**

Child abuse is any action, behavior, or gesture by another person, adult, or child that causes considerable damage to a child. It can be physical, sexual, or emotional, but it can just as often be about a lack of affection, care, and attention. The consequences associated with child physical abuse go beyond what many people think of initially. Not only are there potential physical injuries like broken bones, head trauma, abdominal injuries, and skin injuries, there can also be behavioral, emotional, and psychological effects from exposure to abuse of this kind.

**DISCLOSURE**

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None

**Ethical Consideration**

The patient's parents signed the informed consent and agreed that the medical data would be published as a case report in medical scientific journals.

**Conflict of Interests**

The author reports no conflicts of interest in this work.

**Author contribution**

All authors contributed equally.

**REFERENCES**