



Foreign body ingestion by a paediatric patient: case analysis and legal issues

Połknięcie ciała obcego przez pacjenta pediatrycznego –
analiza przypadków oraz wątki prawne

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Abstract

Foreign body ingestion by paediatric patients is a common problem in medical practice. This article aims to analyse the clinical picture, the aetiology and to comment on the legal liability that the caregiver or the manufacturer may incur in such cases. The presented data come from a 3-year period from a medical centre in Kielce and were analysed retrospectively. The study involved 75 children. Educating caregivers to pay more attention to where they place dangerous objects or to buying toys consisting of small parts may contribute to the reduction of the percentage of patients with the described issues.

Key words: paediatric patient, respiratory foreign body, gastrointestinal foreign body, responsibility for supervision of a minor, manufacturer's liability

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Introduction

Children as the individuals most vulnerable to danger are subject to special legal protection. This protection stems from the basic legal institution in family law, which is parental authority. Parental authority is granted to parents on the birth of a child and continues until the child reaches the age of majority. Parental authority implies the legal responsibility of parents towards their children. Ensuring that the child is adequately protected in terms of his or her health, which, apart from his or her well-being, is the

most important aspect of his or her existence, is an important task of the parents in the process of child-rearing. The exercise of parental authority can be reviewed by the guardianship court at any time. If a child is neglected, the family court can restrict parental authority and even, in extreme circumstances, order the termination of parental authority. The ingestion of foreign bodies by paediatric patients may be a consequence of inadequate care of the child. Inadequate care may, in turn, result from the improper exercise of parental authority by the child's parents or their negligence in taking care of the minor.

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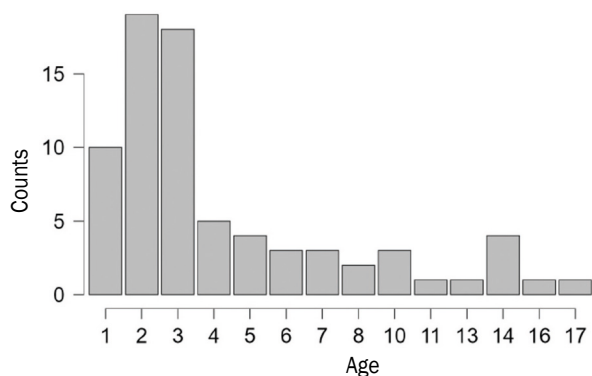


Figure 1. Age distribution of respondents

Table 1. Type of object ingested and mean age of the patient

Object swallowed	Mean	Number of patients	Standard deviation
1.00 chemicals	2.778	18	2.1298
2.00 batteries	3.706	17	3.3868
3.00 coins	4.231	13	2.2787
4.00 other	6.370	27	5.2120
Total	4.533	75	4.0079

Methodology and discussion of study results

The data came from a 3-year period (April 2017–June 2020) from a medical centre in Kielce and were analysed retrospectively. Patients up to 18 years of age were selected from all cases. Of the 75 children, 47 were male. The mean age of the patients was 4 years 6 months, and most patients were under 5 years of age (Figure 1, Table 1). There were 47 patients residing in an urban area and 28 coming from a rural area. The patients ingested or aspirated: 18 chemical products, 17 batteries, 13 coins and 27 items from the category “other”. The category “other” includes, among others, glass, drawing pins, office staples, buttons, razor blades, etc. Of the cases analysed, 73 consisted of foreign bodies in the digestive tract, of which 19 were poisonings. Foreign bodies in the respiratory system accounted for 2 cases only. The study shows a significant relationship with respect to the type of foreign body swallowed and age (Table 2). Young children were more likely to swallow chemical items, while older children were more likely to swallow objects belonging to the category of “other”. The analysis of cases has been performed based on the criterion of consequences of obstruction of the respiratory tract, gastrointestinal tract and poisoning.

Table 2. Type of object swallowed by gender of the patient

Type of object swallowed	Coin	Detergent	Batteries	Other
Girls	2	8	7	11
Boys	9	10	10	16

The table excludes the 2 cases where the objects were aspirated

The mean age of the patients was 5 years old. The histogram shows a higher number of swallowed objects in younger children compared to older ones. Due to the high skewness and kurtosis of the age distribution (values of both parameters exceed twice their standard deviations), the relationship between age and specificity of swallowed objects was tested using a non-parametric test. The Kruskal–Wallis test allowed us to reject the null hypothesis of no relationship between the variables. The character of this relationship is shown in Table 1, which illustrates the variation in mean age values of the children in groups defined by types of objects.

The data collected shows that younger children are more likely to consume chemicals, while older children are more likely to consume items in the “other” category.

Airway obstruction

A foreign body aspiration is a common event among paediatric patients. Children under 3 years of age are at the most risk due to their narrow airways and immature protective neuromuscular mechanisms [1]. Usually, the event is discovered by caregivers immediately due to a sudden attack of coughing, dyspnoea and wheezing in the child. Complete airway obstruction may also occur, resulting in rapid respiratory failure, cyanosis and unconsciousness. In both cases, the foreign body must be removed from the airway as soon as possible to regain function. Occasionally, however, situations also occur in which foreign body aspiration is not immediately discovered and the symptoms are mild. The object remains in the airway for a long time – months or even years, giving symptoms of chronic respiratory disease such as asthma [2], emphysema, atelectasis, or pneumonia, which may lead to misdiagnosis. Therefore, all cases of patients in whom conservative treatment has failed to bring improvement should be reviewed.

Foreign body in the gastrointestinal tract

Foreign body ingestion is a common problem among paediatric patients. The cases collected were grouped into 4 categories based on the type of object ingested: coins (11 cases), batteries (17 cases), detergent (18 cases) and others (27 cases). The “other” category included pieces of

glass, plastic parts, buttons, blocks, etc. The swallowed foreign body may be located in any part of the gastrointestinal tract – proximal or distal part of the oesophagus and stomach. Due to the variety of foreign bodies, including size, shape, length, number and location, they may give different clinical presentations. Symptoms that a patient may experience after swallowing a foreign body include coughing, vomiting, salivation, dysphagia, a feeling of having something stuck in the throat, and abdominal pain [3]. In some cases, the caregivers may be unaware of the foreign body swallowed by children due to their asymptomatic or non-specific symptoms. They discover that the child has ingested the object for the first time after finding the foreign body in the stool. Rarely, cases of foreign body ingestion require endoscopic or surgical removal, and the objects cause obstruction or mucosal damage in the oesophagus or stomach, or even perforation and necrosis of the intestinal wall. It is necessary to consider the type of foreign body ingested in relation to age and possible complications.

Poisoning

The household substances most commonly ingested by children are non-pharmaceutical products [4]. Pharmaceuticals, due to caregivers' awareness of their effects and the fact that they are meant to be ingested, are better stored than cleaning products. Caregivers do not consider the possibility of ingestion of detergents, believing it to be preposterous; however, children may find the colourful appearance of, for example, candy-like laundry capsules, attractive. Poisoning can be divided into three categories, based on the object of ingestion: cosmetics, detergents, and a category including swallowing items coated with a poisonous agent (e.g., old toys covered in lead paint) and direct ingestion of a toxic substance (e.g., mercury from a broken thermometer). Fortunately, most products in the above categories are not toxic in small quantities. Only a few household products, such as caustic cleaners, due to their content of strong acids or bases, may cause toxicity and sometimes even death in young children [4]. Parents should be educated about the assistance they can provide, as any attempt to neutralise the ingested substance may provoke an exothermic reaction or cause it to pass back through the oesophagus, causing additional injury.

Neglect and parental authority

Neglect is a form of child abuse and can include both physical and psychological abuse. Throughout history, many attempts have been made to define this phenomenon. Today, neglect is defined as a failure to meet a child's needs necessary for his or her proper development – the needs related

to nutrition, clothing, shelter, hygiene or medical care [5]. Neglect, according to the Polish language dictionary, is a lack of care for something, or a bad condition of someone or something resulting from a lack of care [6]. Neglect is a consequence of intentional or unintentional actions, most often by adults, towards a child with different levels of satisfaction and regulation of their vital needs. It should be emphasized that neglect is connected with a potential or actual threat to the conditions of a child's proper psychological and physical development, and its essence consists of a failure to provide the child with appropriate conditions for development in the sphere of health, education, emotion, or adequate nutrition. Neglect is passive in its nature. It can consist of a permanent attitude, persistent behaviours or an isolated incident with significant consequences that causes harm to the child [7]. Parents do not always fulfil their responsibilities of care and upbringing properly, with examples such as resulting in neglect or leaving a child without proper care [8].

Parental neglect of a child is a consequence of the parents' improper exercise of parental authority over the minor. The child, as the weakest individual in the family group, has always been subject to parental authority [9]. The use of the term "parental authority" in Polish law until 2008 was not questioned. The discussion started with the amendment of the Family and Guardianship Code of 6 November 2008. However, it resulted in a decision not to change the term "parental authority" [10]. Parental authority is a legal relationship linking directly the parents with their minor child, by granting to the parents a conglomerate of rights and duties in relation to the child in the area of custody, representation and management of the child's property, functionally linked to the process of the child's upbringing [11]. Parental authority encompasses all the duties and rights of the parents towards the child, aimed at ensuring proper custody and guarding of the child's interests. This category also includes the parents' competencies with regard to both the person of the child and its property [12]. Parental authority is a fundamental institution of family law which ensures the proper functioning of the child in society. The exercise of parental authority depends exclusively on the parents who exercise it. If parental authority is vested in both parents, each of them is obliged and entitled to exercise it, but the essential matters concerning the child are decided jointly by the parents, and in the absence of an agreement between them, the guardianship court decides [13]. Parental authority is inextricably linked with parental supervision over the child. This supervision is not limited to the day-to-day care of the child but includes methods of indirect influence such as upbringing [14]. Linking supervision with the concept of parental authority seems natural and has been confirmed in the literature [15]. It is noted that the most important

feature of parental authority is the protective function [16]. Czerederecka [17] points out that “The most important feature of parental authority is considered to be the protective function, and the child’s best interest as the overriding goal”.

International legal regulations also refer to parental responsibility. It is worth mentioning the Convention of 20 November 1989 on the Rights of the Child [18] as an example. Article 18(1) of this Convention states that both parents share responsibility for the upbringing and development of the child. Parents, or in certain cases legal guardians, have the primary responsibility for the upbringing and development of the child. The best interests of the child are to be their primary concern. Parental responsibility is also referred to in Council Regulation 2201/2003/EC of 27 November 2003 on jurisdiction and the recognition and enforcement of judgments in matrimonial matters and matters of parental responsibility [19].

Parents’ responsibilities towards the child

As a part of the physical development of the child, the parents are obliged to take care of the child’s health and life, of his/her full physical fitness [20]. The situation threatening the child’s best interest, and not only this interest’s violation, is a premise for the guardianship court to issue appropriate orders to immediately prevent the violation of the child’s best interest, regardless of whose side the reasons resulting in such a state of affairs were [21]. Whoever, having the duty of care or supervision over a minor under 7 years of age or over another person incapable of recognizing or defending himself or herself against danger, allows such person to remain in circumstances dangerous to human health, shall be subject to the penalty of a fine or the penalty of a reprimand [22]. The subject of an offence under Art. 106 of the Misdemeanours Code is always a minor under the age of 7, as well as another person incapable of recognizing or defending him or herself against danger. Thus, the legislature recognizes a minor under the age of 7 as a person incapable of recognizing or defending himself or herself against danger, while above this age – only depending on the individual characteristics of the person [23]. Compliance with the duty of care, care and supervision consisting in ensuring the personal safety of the ward, and protecting him/her from physical and mental consequences of dangerous situations is the object of protection in this case [24]. Special protection concerns the health and development of minors under 7 years of age and helpless persons, which may be damaged as a result of allowing these persons to stay in dangerous places [25]. It must be emphasized that a minor under 7 years of age is not, on the grounds of Article 106 of the Misdemeanours Code, a separate subject from persons incapable of recognizing

or defending themselves against danger. This is evidenced by the wording of this provision, which provides for a minor under 7 years of age and a person other than such a minor, who is incapable of recognizing or defending him or herself against danger [26].

A child, being in the custody of the parents, is subject to special care. The parents, but also the guardians who currently supervise the minor, are obliged to guard the safety of the child’s health and life. The cases of ingestion of foreign bodies by paediatric patients presented in this article occurred in the situations of improper care of a minor, which constitutes negligence in the proper exercise of care and supervision over the child. If the doctor has a justified suspicion that the ingestion of the foreign body occurred due to improper care, he or she should inform the competent authorities, i.e., the police, the prosecutor’s office or the family court. In such a case, the doctor is exempt from the obligation of medical confidentiality.

Responsibility of the manufacturer

In order to assess the prerequisites for the legal responsibility of parents for improper care of the minor, it is important to establish whether parents exercise due diligence in terms of supervision. Such supervision includes exercising care, especially in situations or places where the minor may experience harm, such as a public road or a large-format shop, but also in the home environment, through the appropriate selection of toys [27]. Under current law, all toys should bear appropriate markings, including the most important ones concerning age restrictions and whether the child can play with the object alone or under adult supervision. Toys and their parts and, in the case of fixed toys, their fastenings, must have the requisite mechanical strength and, where appropriate, stability so that the loads to which they are subjected during use do not cause them to break or become detached in such a way as to present a risk of physical injury or harm to the user. Accessible edges, protrusions, cords, cables and fastenings on toys must be designed and manufactured in such a way as to minimise the risk of injury from contact with them. Toys must be designed and manufactured in such a way that they do not present a hazard or that hazards caused by the movement of their parts are minimised [28].

In jurisprudence, there are cases of holding the manufacturer of preparation, as a result of which a minor suffered health impairment, jointly responsible. In one of the cases, the court examined whether the product ingested by a minor had appropriate protection against opening and whether its label was correct. A manufacturer of a highly corrosive product admitted to general circulation and available in most shops on the lower shelves should eliminate the danger of easy opening and consumption of this product, which is in accordance with the principles

of social co-existence, especially the principle of health protection, protection of young children and not exposing them to avoidable danger. Having analysed the facts of the case, the Court of Appeal concluded that the defendant's conduct and the momentary inattention of the parents were co-factors in the tragic event. It was not possible to consider them as exclusive (and thus to assume, as the plaintiff would have had it, that the sole cause of the event was the defendant's defective conduct or – as the defendant requested – that the parents should bear sole responsibility for it). Undoubtedly, a proper reaction by the parents could have prevented the tragedy. Had the unsecured product not been in the shop, it would not have happened either [29].

A product is considered to be movable even if incorporated into another movable or immovable, as well as animals and electricity [30]. A product is (considered) unsafe if it does not ensure the safety that can be expected, taking into account the normal use of the product. Whether a product is safe or not is determined by the circumstances at the time it was placed on the market, in particular how it was presented on the market and what information was given to the consumer about the product's characteristics. A product may not be deemed unsafe simply because a similar improved product was later placed on the market. Before giving a toy to a child, parents should check whether it has small hidden parts that the child can swallow. It is the duty of the parents in the first instance to prevent a minor from swallowing a foreign body. As pointed out by the Court of Appeal in Łódź in one of its judgments, it is not unlawful to manufacture an unsafe product and place it on the market if the potential buyer, based on the available information, can learn about the properties of the unsafe item that the buyer intends to purchase and use for its intended purpose. On the other hand, it is unlawful, since it is contrary to the principle of fairness to the buyer and fairness in commercial relations to market products with unsafe characteristics, even though available commercial information indicates otherwise [31]. Therefore, it should be concluded that the manufacturer, when placing a product on the market, is not responsible for its manufacturing and marketing, because it is the purchaser (parents) who have the obligation to find out, based on available information, that the product (toy) is unsafe.

Summary

As long as children continue to put objects in their mouths, foreign body ingestion will be a problem that paediatricians

will have to deal with. As technology develops faster and faster, new toys are being developed that have in their structure many small parts that children like to put in their mouths. Their size can cause swallowing that goes unnoticed by the parent. While the ingested object can be pointed out by the parent, the chemical is often found outside the original packaging, so the guardian may not be able to precisely identify the type of substance ingested, making it difficult to provide prompt and accurate treatment. Parental authority is a fundamental institution of family law and is inextricably linked to the protection of the child's best interest. Neglect in exercising supervision and care over a child, defined as failure to meet the child's needs necessary for his or her proper development, may lead to an offence under Article 106 of the Misdemeanours Code, according to which anyone who, having the duty of care or supervision over a minor under 7 years of age or over another person incapable of recognizing or defending himself/herself against danger, allows that person to remain in circumstances dangerous to human health, is subject to a fine or reprimand. Parents should exercise due diligence in their care and supervision of a minor. To determine the responsibility of the parents for the damage, it is necessary to analyse all the circumstances, including whether due diligence was exercised on their part. Where parents fail to exercise their rights and duties under parental authority, the guardianship court may issue an order restricting or, in extreme cases, withdrawing their parental authority. Responsibility for the ingestion of foreign objects by a child will lie primarily with the parent, but also with the guardian who supervised the child. It is therefore important to educate parents and carers to pay more attention to where dangerous objects are placed. This will reduce the proportion of patients with the aforementioned conditions. The responsibility of the toy manufacturer is equally important as that of parents and carers. The manufacturer, in fact, before placing a product on the market, should ensure that the toy is appropriately labelled, so that parents can verify that the toy is suitable for children to play with.

Conflict of interest

None declared.

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Streszczenie

Połknięcie ciała obcego przez pacjentów pediatrycznych stanowi częsty problem w praktyce medycznej. Celem artykułu jest analiza obrazu klinicznego, etiologii i przedstawienie uwag dotyczących odpowiedzialności prawnej, jaką może ponieść w takim przypadku opiekun lub producent. Prezentowane dane pochodzą z placówki medycznej w Kielcach, zbierane w ciągu trzech lat i zostały przeanalizowane w sposób retrospektywny. W badaniu udział wzięło 75 dzieci. Edukacja opiekunów, by większą uwagę przykładali do miejsc odkładania przedmiotów niebezpiecznych czy kupowania zabawek składających się z drobnych części, może się przyczynić do zmniejszenia odsetka pacjentów z opisanymi przypadkościami.

Słowa kluczowe: pacjent pediatryczny, ciało obce w układzie oddechowym, ciało obce w układzie pokarmowym, odpowiedzialność za nadzór nad małoletnim, odpowiedzialność producenta

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