PEDIATRICS FOREIGN BODIES IN THE BLADDER

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ПЕДИАТРИЯ: ИНОРОДНЫЕ ТЕЛА МОЧЕВОГО ПУЗЫРЯ

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Summary. This article presents two clinical cases of foreign bodies (FBs) in the bladder of adolescents of both sexes. The purpose of this publication is to draw the attention of pediatricians, pediatric surgeons, and urologists to the rare localization of FBs in children and adolescents, where clinical manifestations are typically minimal (e.g., painful urination). Accompanying changes in urine tests are nonspecific. A more thorough collection of medical history, especially in pre-pubertal and pubertal patients, significantly facilitates the diagnostic process.

Keywords: *children and adolescents, foreign body, bladder, urogenital tract.*

Foreign bodies (FBs) in the urogenital tract of children and adolescents are rare; they are predominantly extracted from older or elderly patients (iatrogenic cases) [1–6]. The main pathways for FBs entering the genitourinary system include: self-insertion via the urethra by patients or during medical procedures; migration from adjacent organs (e.g., femoral pin); penetrating injuries; or spontaneous entry of living organisms [7].

Domestic and international literature contains limited publications on this topic, primarily clinical case reports [2, 3, 8–11]. An analysis of specialized literature from 1755 to 1999 identified only 800 individual reports of FBs in the genitourinary system [12]. Some authors claim that bladder and urethral FBs are more common in boys over 11 years old, while others report a predominance of female cases. It is suggested that FB insertion into the urinary tract often has sexual or erotic motives [1, 2, 12].

The most comprehensive review on this topic was presented by Y. He et al. (2019), who analyzed 188 medical records of children and adolescents with urogenital tract FBs (nature of FBs, surgical management) treated at a medical center over 10 years. The authors noted that FBs were more frequently extracted from girls, with a female-to-male ratio of 4:1 [12]. Peaks in FB detection occurred in two age groups: 3–5 years and 9–13 years. Over the past five years, the number of cases has nearly doubled. Girls under 6 years old predominantly had vaginal FBs, while boys over 11 years old had bladder FBs. In 138 cases, FBs were found in the vagina, 33 in the urethra, and only 17 in the bladder or both the bladder and urethra [1, 13, 14].

The scarcity of publications on bladder FBs in children and adolescents prompted the presentation of two clinical cases.

Case 1: Patient N., 14-year-old female. Admitted with complaints of pain during urination. History: Five hours prior to admission, the patient lost a cosmetic pencil during masturbation, which she had inserted into her genitalia. On admission: General condition satisfactory; body temperature 36,2 °C. No pathological somatic findings. Abdomen soft, non-tender.

Urinalysis revealed hematuria (red blood cells: 535.4/field of view (FOV)), leukocyturia, and bacteriuria (3,0 and 29,4/FOV, respectively). Gynecological examination: No FBs detected in the genital tract. Ultrasound (US) of the bladder revealed an FB in the bladder cavity (Fig. 1).

Emergency cystourethroscopy (Charrière No 9 cystoscope) identified a plastic cosmetic pencil (Fig. 2), measuring 13,0 × 0,5 cm. The pencil was removed using Billroth forceps inserted parallel to the FB via the urethra.

The postoperative period was uneventful. The patient received uroseptics and analgesics and was discharged after two days. Interviews with parents confirmed no psychiatric abnormalities.

Case 2: Patient Kh., 15-year-old male. Admitted with complaints of lower abdominal pain at the end of urination, persisting for one month. Previously treated as a urinary tract infection (UTI)

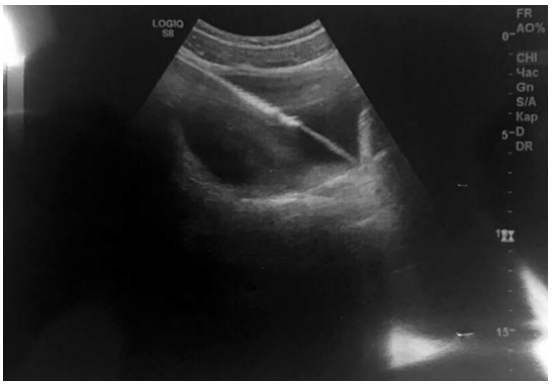

Fig. 1. Bladder ultrasonography of a 14-year-old female patient

Fig. 2. Foreign body extracted from the bladder (plastic cosmetic pencil) of a 14-year-old female patient

with uroseptics and antispasmodics without improvement. Upon detailed questioning, the patient admitted to self-inserting an object into the urethra. On admission: General condition satisfactory; body temperature 36,9 °C. Physical examination unremarkable except for painful urination. Urinalysis: Yellow urine; fresh red blood cells 18–25/FOV (hematuria), leukocytes 2–3/FOV; protein 10 mg/dL. US: A linear, curved structure up to 20 cm long in the bladder cavity. Bladder wall thickened to 3,6 mm. Emergency cystourethroscopy revealed a glue gun rod (Fig. 3), which was extracted using endoscopic forceps. The patient was discharged on the second postoperative day.

Conclusion. Clinical manifestations of bladder FBs are minimal: dysuria and nonspecific changes in urinalysis. Inflammatory processes or FB migration into the abdominal cavity (bladder perforation) may lead to peritoneal irritation or peritonitis [1]. Ultrasound is the primary diagnostic tool. Endoscopic intervention is the treatment of choice. For complex FBs or perforation, laparoscopic or laparotomic approaches may be required. Both cases described were managed via cystourethroscopy.

These cases highlight the importance of meticulous history-taking in pre-pubertal and pubertal patients.

Prevention of foreign body insertion in the bladder, particularly among pediatric populations, involves a multifaceted approach that includes education, supervision, and the promotion of safe behaviors.

Educating children and caregivers about the dangers associated with inserting foreign objects into the bladder is crucial. Awareness campaigns can be developed to inform families about the potential risks and complications, including urinary tract infections and injury to the urinary tract. [15]

This education should emphasize that insertion behaviors may stem from curiosity or peer pressure, and that safer alternatives for exploration and play exist. [15]

Adequate supervision of children, especially in environments where they may encounter small objects, is essential to minimize the risk of unintentional insertion. Parents and guardians should be encouraged to monitor their children's activities and limit access to items that can be easily inserted into the bladder, such as small toys or household items. [16]

Promoting healthier forms of play and expression can also help deter children from engaging in harmful insertion behaviors. Parents should be encouraged to provide safe, age-appropriate toys and activities that do not pose a risk of insertion into the body. [15]

Encouraging open communication between children and their caregivers about their curiosities and experiences can foster a supportive environment. By creating a non-judgmental space for discussion, caregivers can address any questions or concerns children may have, which may reduce the likelihood of harmful behaviors occurring due to feelings of shame or secrecy. [15]

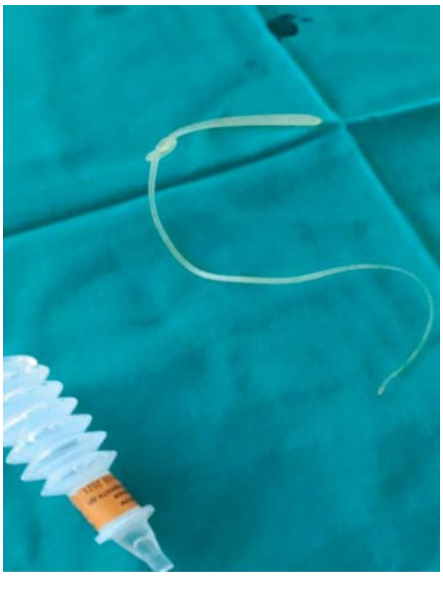

Fig. 3. Foreign body extracted from the bladder (rod of the glue gun) of a 15-year-old male patient

For children who may be prone to insertion behaviors, implementing harm-reduction strategies can be beneficial. This includes teaching children safer methods of exploration and providing guidance on managing their behaviors in a way that minimizes risk. [17]

By combining education, supervision, promotion of safer alternatives, and open communication, the risk of foreign body insertion in the bladder among pediatric patients can be significantly reduced.

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