### Case Report

# Longstanding Presence of a Vaginal Foreign Body (Battery): Severe Stenosis in a 13-Year-Old Girl

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#### ABSTRACT

Background: In recurrent/unresponsive vaginal discharge a vaginal foreign body should be considered.

Case: We present the case of a 13-year-old girl who suffered from a foul-smelling dark brownish and malodorous vaginal discharge since the age of 7 years. When the girl was 11 years old, a foreign body was discovered on ultrasound imaging; removal by colposcopy failed, because of the complete battery inclusion in the posterior vaginal wall. Two years later, at our institution, radiological images yielded the general position of the foreign body; colposcopy showed complete vaginal stenosis. Forced dilatation allowed surgical removal of the battery which was embedded in the vaginal fundal wall.

Summary and Conclusion: Early removal of foreign objects prevents ulceration, necrosis, stenosis, perforations, and late serious sequelae such as pelvic inflammation and infertility.

Key Words: Longstanding foreign body, Disk battery, Vaginal stenosis, Children, Therapy

#### Introduction

Vaginal foreign bodies are uncommon in childhood, accounting for approximately 4% of the total outpatient hospital visits for girls younger than the age of 13 years with genital complaints. Vaginal bleeding and/or blood-stained, foul-smelling discharge are considered the main clinical manifestations of vaginal foreign bodies.<sup>1,2</sup>

An extraordinary variety of foreign bodies might be found in the vagina, including safety pins, hair grips, pencils, and small jam jars; however, the most common object identified is wadded toilet paper, which is found in up to 80% of cases. The patient's medical history is rarely helpful because the insertion is generally not witnessed by an adult, nor will the child usually disclose putting an object into the vagina.<sup>1–5</sup>

A vaginally lodged battery as a foreign body has rarely been reported.<sup>3–6</sup> The pressure exerted by the battery on the tissues, the process of corrosion, and the discharge from the battery might contribute to tissue damage.<sup>5,6</sup> The insertion of batteries into the body, particularly those that remain unrecognized, can also cause severe damage to hollow organs.<sup>5,6</sup>

We present a rare case of a longstanding vaginal disk battery, which caused severe stenosis in an adolescent. A literature review relative to batteries as a vaginal foreign body and sequelae related to their extended presence is also discussed.

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#### Case

A 13-year-old female adolescent was seen in the outpatient clinic for foul-smelling dark brownish vaginal discharge, which was present since the age of 7 years. The adolescent had to interrupt school attendance because of the foul smell, and experienced psychological discomfort and avoided interacting with her school mates. No history of sexual abuse was documented.

The child was diagnosed in her country as having a pelvic foreign body (disk battery) at the age of 11 years; a first attempt was made to remove the foreign body using colposcopy, which was unsuccessful. For 2 years afterward, the patient was lost to follow-up.

On physical examination, she was Tanner stage IV for pubic hair and breast development; the external genitalia were normal, fat disposition occurred in the mons pubs and labia majora; labia skin were rugose and clitoris prominent. The vulvar epithelium was increased in thickness with no inflammatory changes. A foul smelling vaginal discharge, associated with putrefied material, was present; no dysuria was documented. Radiological images were not available; a plane abdominal x-ray was performed revealing the presence of a button-shaped foreign body (battery measuring 1.1 cm in diameter) in the pelvis most likely at the vaginal fundus (Figure 1A).

An ultrasound examination was performed to more precisely localize the foreign body. This evidenced a 1-cm hyperechoic image at the left vaginal fundus surrounded by a small dense area measuring  $2.2 \times 1.3$  cm with an unremarkable cervix and myometrium. A hyperechoic endometrium with a 6-mm thickness was noted (Figure 1B).

The authors indicate no conflicts of interest.

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Figure 1. Radiological images. (A) Radiograph of the lower abdomen revealed a foreign body. (B) Ultrasound images. Hyperechoic image of the left vaginal fundus. (C and D) CT scan of the patient's pelvis showing the foreign body at the distal segment of the vagina adjacent to the rectum.

A computed tomography scan was performed to further localize the position and determine whether the foreign body had any contact with the rectal wall. The position of the foreign body was confirmed at the distal segment of the vagina without any communication with the rectal wall (Figure 1C and D).

The patient was given general anesthesia, and in the lithotomy position, a colposcopy was attempted in the operative room. The patient was also prepared for a possible laparoscopy. It was only possible to enter the vagina for 3 cm because of a complete stenosis at its corpus, thus the cervix could not be visualized. At the distal end of the vagina a very small opening was identified through which the discharge was emerging. Because an attempt to enter with a scope was unsuccessful, Hegar dilators were used to enlarge the opening. After dilatation of the vaginal stenosis, the scope was able to pass, but no foreign body was visible.

Subsequently, a digital rectal exam was performed, and the tip of the right index finger identified the mass within the posterior wall of the vagina, which was soft and well circumscribed. Using the tactile examination of the rectum as a guide, two traction sutures were used to pull down the posterior wall of the vagina and the mass was exposed and carefully opened. The foreign body (disk battery) was embedded in the surrounding tissues (Figure 2). After

removal, no communication with the rectal wall was observed.

The traction sutures were removed and a drainage tube was left in situ. Systemic antibiotics were administered over 7 days. Vaginal washes were performed for the following 5 days, until the foul smell was no longer perceptible and the patient was discharged.

Lithium and mercury blood tests were performed and the results were negative. At follow-up the patient reported having regular menses, with normal blood flow. The followup continues to assess the need for vaginal dilatation.

#### **Summary and Conclusion**

This case highlights the serious sequelae and significant morbidity that might be caused by a vaginally lodged disk battery, particularly when retained for an extended period of time. Small disk batteries have become increasingly popular to power many types of electronic devices and toys, with an increase in reports of disk battery ingestion and associated life-threatening injuries. Thus, battery ingestion has received increased media attention.<sup>3</sup>

Esophageal burns are the most common documented battery-related injury in children. There is scarce literature on vaginal burns with only a few articles published to date

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