CASE REPORT

An unexpected cause of vaginal bleeding: the role of pelvic radiography

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SUMMARY

Vaginal bleeding and/or discharge in young girls may result from infection, urological problems, endocrine causes, bleeding disorders, dermatological conditions, trauma, sexual abuse, masses or foreign bodies. We report a case of excessive vaginal bleeding caused by a foreign body in a prepubertal girl with emphasis on the diagnostic challenges and pitfalls regarding imaging techniques. In our patient, although invasive and expensive investigations had been initially made, the foreign body was last detected only when a plain pelvic radiography was performed.

BACKGROUND

Vaginal foreign bodies are uncommon in childhood, accounting for approximately 4% of the total outpatient hospital visits for girls under the age of 13 years with genital complaints.¹ According to the literature, any kind of small object can be found in a girl's vagina, with toilet paper being the one most commonly found.²⁻³ Lead pencils, pen caps, bottle caps, small plastic toys, safety pins and wax crayons are also frequently introduced in the vagina either due to the child's curiosity or for sexual gratification. Yet, diagnosis of a vaginal foreign body can sometimes be difficult, thus leading to significant morbidity.⁴⁻⁵ We report a case of excessive vaginal bleeding caused by a foreign body in a prepubertal girl with emphasis on the diagnostic challenges and pitfalls regarding imaging techniques.

CASE PRESENTATION

A 5-year-old girl presented to the emergency department with excessive vaginal bleeding without any other symptoms. Two weeks before presentation, she had been examined by a general paediatrician due to vaginal discharge; the latter diagnosed vulvovaginitis, ordered vaginal cultures and prescribed antibiotics. The rest of her and family history was unremarkable.

On physical examination, she was apparently healthy, afebrile and haemodynamically stable with a blood pressure of 80/50 mm Hg and a pulse of 105 bpm. Her body weight and height were at the 50th centile. She had normal female external genitalia and no signs of puberty. There were neither signs of acute abdomen nor evidence of trauma or sexual abuse.

INVESTIGATIONS

Blood and urine examinations were normal. No abnormal findings were detected on evaluation

with ultrasound of the lower abdomen. The diagnostic mystery was solved when the child was moved to the MRI unit; the metal detector went off. A plain pelvic radiograph was then performed, and two small radiopaque keys along with a ring that kept them together were seen (figure 1). The girl locked her diary and afterwards inserted the keys in her vagina while trying to hide them from her mother.

DIFFERENTIAL DIAGNOSIS

Vaginal bleeding and/or discharge in young girls may result from infection, urological problems, endocrine causes, bleeding disorders, dermatological conditions, trauma, sexual abuse, masses or foreign bodies.² Clinical examination, blood and urine tests, personal history and imaging techniques, including ultrasound, radiography and MRI of the pelvis, were all useful in differential diagnosis.

TREATMENT

With the girl under general anaesthesia, the keys were finally removed by a paediatric gynaecologist; the keys were 2 cm in length, and the ring had a diameter of 0.5 cm. The patient was treated with oral and topical broad-spectrum antibiotics and analgesics.

OUTCOME AND FOLLOW-UP

No complications were observed and the patient was dismissed. The recovery was uneventful.

Figure 1 Pelvic radiography revealing two small radiopaque keys along with a ring that kept them together.

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DISCUSSION

The presence of a vaginal foreign body can sometimes be missed because clinical and imaging evaluation may not reveal the diagnosis. This is also in agreement with reports concluding that small children usually failed to remember or admit self-insertion of a foreign body into the vagina.^{4 5} On the other hand, there is some uncertainty regarding the role of non-invasive imaging techniques. Pelvic ultrasound has previously been described as the first step in the evaluation of suspected vaginal foreign bodies in young girls.⁶ Although it may be helpful in determining the pubertal stage of the internal genitalia and excluding ovarian or uterine masses, it still may fail to visualise non-metallic intrauterine or metallic intravaginal foreign bodies. MRI may also be helpful in the localisation of non-metallic objects, but in many cases it is inconclusive and not available.⁷ In contrast, pelvic plain radiography may often (but not always) fail to reveal non-metallic objects; however, if the objects are radiopaque, it can easily contribute to early diagnosis by providing information about the shape, size and identity of the foreign body as well.⁸ If all imaging techniques demonstrate negative findings, a vaginal examination under anaesthesia is necessary to exclude the presence of a foreign body.⁹

In conclusion, based on this case, the presence of a vaginal foreign body should at least be considered in a prepubertal child presenting with vaginal discharge or bleeding, even when the hymen appears intact. We present this case to alert clinicians that pelvic radiography remains a useful tool during the initial approach whenever a foreign body in the vagina is suspected.

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Learning points

- Vaginal bleeding/discharge in young girls may result from infection, urological problems, endocrine causes, bleeding disorders, dermatological conditions, trauma, sexual abuse, masses or foreign bodies.
- The presence of a vaginal foreign body should be considered even when hymen appears intact.
- Pelvic plain radiography remains a useful tool during the initial approach whenever a foreign body in the vagina is suspected.

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