Case Report

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Foreign Body as a Cause of Vaginal Discharge in Childhood

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Abstract

Objective: Vaginal purulent discharge in children is mainly due to nonspecific enteric bacterial agents and specific agents such as group A *beta-hemolytic streptococcus, hemophilus influenzae* and *staphylococcus aureus.* Lack of protective effects of estrogen in vaginal mucosa is the main predisposing factor. Persistent or recurrent foul smelling and/or serosanguineous vaginal discharge, not responsive to medical therapy in most cases, might be caused by a missed vaginal foreign body.

Case Presentation: We present a 7-year old girl because of persisting foul smelling, occasionally blood stained vaginal discharge for about 4 years despite a few courses of medical therapy by gynecologists. Ultrasonography didn't achieve to demonstrate the presence of the foreign body, but pelvic x-ray showed a radio-opaque body resembling a roll plaque. Vaginoscopy discovered a cap of eyebrow pencil in the upper vagina. This removed by forceps led to improvement of the disease.

Conclusion: In a child presenting with vaginal discharge not responsive to hygienic measures and medical therapy, possibility of vaginal foreign body must be considered. Although MRI is the most proper technique for evaluation, sonography and/or x-ray are more available and helpful in most cases.

Key Words: Vaginal discharge; Estrogen; Dysuria; Foreign body

Introduction

Vaginal purulent discharge is a relatively common gynecologic problem in children that may be relapsing or resistant to symptomatic and/or antibiotic therapy[1-3]. For premenarchal girls, the predisposing factors mainly include a lack of an acidic pH and lack of the protective effects of estrogen on

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vaginal mucosa[4]. Nonspecific enteric bacterial agents and specific pathogens such as group A *beta-hemolytic streptococcus*, *hemophilus influenzae* and *staphylococcus aureus* are responsible in most cases[3, 5-7].

Although vaginal foreign body is not a common problem in childhood, the presence of a foreign body should be considered whenever a child presents with persistent or recurrent foul smelling and or sero-sanguineous vaginal discharge[2,4,8]. Diagnostic studies for a vaginal foreign body may include imaging as plain radiography, ultrasound and MRI. The absence of positive findings should not rule out a foreign body. Vaginal irrigation and/or vaginoscopy under general anesthesia is appropriate to identify a foreign body or other causes of the discharge[2]. We describe a 7-year old girl who was suffering from relapsing malodorous, blood stained vaginal discharge for 4 years, for which she was treated by gynecologists.

Case Presentation

A 7-year old girl was referred to our outpatient clinic for evaluation of persistent foul smelling vaginal discharge, occasionally brown or bloody stained, for the past 4 years with associated irritation of the vulva and dysuria. She has been treated several times with systemic antibiotics and local estrogen by gynecologists but she suffered further from relapsing episodic courses.

The girl and her mother denied foreign body insertion or the possibility of sexual abuse. Physical examination revealed normal female external genitalia with remarkable mucosal redness and mild amount of purulent discharge in vestibula and lower vagina with associated excoriation and erythema of the vulva. There were cicatrices in vaginal fourchette, probably due to an old trauma. The hymen was intact without any scar or rupture. Vaginal swabs were taken through vaginal introitus and cultured according to standard methods of microbiology, which revealed the presence of *Escherichia coli* and *Streptococcus faecalis*. Urinalysis revealed leukocyturia. Urine culture was not significant. Trans-abdominal ultrasonography revealed normal internal genital organs and did not achieve to demonstrate the presence of a foreign body or a vaginal mass. Plain pelvo-abdominal x-ray showed the presence of a radio-opaque foreign body resembling a roll-palque (Fig 1). The girl denied having any memory of placing the object in her vagina.

After a course of one week antibiotic therapy (Amoxicillin 40mg/kg/d), vaginoscopy under general anesthesia revealed the foreign body attached to the right side of the upper portion of vagina. The foreign body was grasped by Allis forceps and removed by gentle traction. It was a cap of the mother's eyebrow pencil measuring 8 mm×43 mm.

The girl was discharged home. In the follow up visits 2 and 6 weeks later the girl and her

Fig 1- A plastic cap of eyebrow pencil inserted to vagina

mother reported cessation of the foul smelling discharge and itching. A trans-abdominal sonography and plain radiography confirmed the absence of any remaining part of the foreign body. There was no emotional or psychologic problem in the girl and the parental interrelationship.

Discussion

Foreign body insertion into vagina in childhood is uncommon but important and interesting. An intra-vaginal foreign body of long duration can pose diagnostic dilemma in prepubertal girls. Foreign bodies may be ingested, inserted into a body cavity or deposited into the body by a traumatic or iatrogenic injury. Most foreign bodies inserted into a body cavity often causes only minor mucosal injury, however they may cause obstruction or perforation, leading to hemorrhage, abscess formation or septicemia. Metallic objects, except aluminum, are radio-opaque. Most animal bones, all glass bodies are opaque. Most plastic and wooden bodies and most fish bones may not be opaque[9].

Although vaginal foreign body is an uncommon cause of vaginitis in children, in cases of pediatric vaginitis and when a child presents with persistent and/or relapsing, foul smelling bloody vaginal discharge, one should always look for a foreign body in vagina[10].

Long standing presence of a foreign body in vagina may cause vesicovaginal fistula and urinary incontinence[11,12], it may be complicated by vaginal stenosis or near complete obstruction[8].

Presence of a foreign body within vagina may be remained undetected for a long time, until menarche, and then vaginal discharge will occur recurring with each menses. Malodorous vaginal discharge in a child may be due to infection, sexual abuse, congenital malformation, idiopathic vaginitis, vulvar skin disease, vaginal neoplasm or a foreign body[8]. The possibility of sexual abuse in all patients even in girls with a vaginal foreign body should be explored[13].

Intravaginal foreign bodies are reported to be present in 4% of girls younger than 13 years of age presenting with genitourinary complaints[14]. Stricker et al reported that 49% of the girls with vaginal foreign body had presented with blood stained vaginal discharge and almost 20% with abdominal pain[15]. In another study, Caprao reported that the incidence of vaginal foreign bodies among premenarcheal girls with bloody discharge was 10%[16]. A retrospective chart review performed by Yolanda et al revealed that in the girls who underwent a

vaginoscopy under anesthesia, a foreign body was found in 17.6% and in all cases that presented with bloody or brown discharge[2].

The most common foreign bodies found in vagina of children are wads of toilet paper, marbles, beads, paper clips, lead pencil, sponge, plastic stopper, and fibrous material from clothing, carpet, etc[4,7,10,11,16], in adolescent and adult women forgotten menses tampons, the breakage of condom and less commonly unusual objects as the result of sexual experience.

Methods to rule out a vaginal foreign body include a careful history taking and genital examination, bimanual recto-abdominal palpation, pelvic ultrasound, plain pelvic radiography, vaginography and MRI. MRI is supposed to be the best technique for evaluating vaginal foreign bodies in young children[17]. The use of MRI has increased the localization of nonmetallic objects missed by ultrasonographic and radiologic studies[2,18]. MRI however, is not always available or necessarily conclusive.

Procedures such as vaginoscopy and continuous flow vaginoscopy with a 4 mm hysteroscope under general anesthesia and/or vaginal irrigation with normal saline are very useful for detection and management of a vaginal foreign body[2,18]. Vaginoscopy is indicated for recurrent vulvovaginitis unresponsive to improved perineal hygiene and medical therapy or associated with bleeding and for suspicion of a foreign body, neoplasm or congenital anomaly. A child with vaginal foreign body should be assessed psychologically. The event may be the result of child masturbation or potential underlying emotional and behavioral problems[16].

In our case the plastic foreign body has been in place for about 4 years without a significant complication but only with recurrent vaginal discharge that was particularly distressing to the patient and her parents. The patient had no memory of placing the object in her vagina. Ultrasound was not helpful but plain x-ray solved the problem.

Conclusion

If a child presents with vaginal discharge not responsive to hygienic measures and medical therapy, possibility of vaginal foreign body must be considered. Although MRI is the best technique for evaluation, sonography and/or x-ray is more available and helpful in most cases. In some cases vaginal irrigation and/or vaginoscopy under general anesthesia is appropriate for detection and removing of vaginal foreign body.

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