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Odorous vaginal discharge

A case study for thorough investigation

Odorous vaginal discharge is a common presentation to general practitioners, and a frequent presentation for bacterial infections and sexually transmissible diseases. Busy GPs may be tempted to make a diagnosis from the clinical history and symptoms, and prescribe antibiotics as a first line treatment. This case highlights an unusual cause of persistent odorous vaginal discharge. If a thorough examination had not been conducted, the cause would have been overlooked, first line antibiotics would most likely have been ineffective, and potentially life threatening consequences may have occurred.

Keywords: vaginal discharge; menstruation disturbances

Case study

Debbie, a single mother, 27 years of age, presented with 3 weeks of persistent vaginal discharge. The discharge was foul smelling, light green, of moderate volume without any blood stain or clot. She also experienced moderate suprapubic pain that was constant and without radiation. The pain was exacerbated by bearing down and was not relieved by nonsteroidal anti-inflammatory drugs. She did not experience fever, dysuria or loin pain. She had an intrauterine device inserted 4 years ago which gave her irregular, light menses with cycles ranging from 48–60 days; she could not recall the exact date of her last menstrual period and was overdue for a Pap test. She was unemployed and lived with her father, taking care of two young children. She maintained an active sex life without a steady partner, and had unprotected intercourse 1 month ago with an unknown, casual partner. She believed her vaginal discharge was caused by a sexually transmissible infection (STI) from that sexual encounter. Consequently, Debbie requested blood tests to exclude an STI, and in the hope of finding a 'quick fix' treatment.

Debbie presented to a trainee doctor, who, after discussion with her supervisor, convinced the initially reluctant patient of the importance of a speculum examination and swabs for microbiology.

On initial examination, the patient was afebrile but looked distressed. Her abdomen was not distended. She had suprapubic tenderness on deep palpation but no guarding or rebound tenderness. Bowel sounds were normal. On speculum examination, there was an undilated cervix with an odd 3 cm x 3 cm greyish mass at the posterior fornix of the vagina (*Figure 1*).

The supervisor was summoned and probed the mass lightly with a 20 cm cottonwool stick, resulting in some sloughing and further discharge of odorous green material. Careful manipulation of the mass with long curved forceps produced

Figure 1. Speculum examination revealing a greyish-green mass at the posterior fornix of the vagina

Figure 2. Delivery of the retained tampon with long curved forceps

Figure 3. Close up view of the retained tampon, which had lost its original shape

no discomfort, suggesting an intravaginal foreign body. The trainee doctor then extracted the mass and identified it as a retained tampon (*Figure 2, 3*).

Cervical and vaginal swabs were taken and the vaginal vaults were sponge cleaned with chlorhexidine. The intrauterine device (IUD) string was noted exiting from the os. Bimanual examination demonstrated a normal size uterus, no adnexal masses and no pain with cervical motion. A urine pregnancy test was negative. In view of the discharge, in situ IUD and the potential risks of toxic shock syndrome (TSS), empirical antibiotics were strongly advised. The patient declined empirical treatment but agreed to start antibiotics if her symptoms worsened or if the bacterial cultures were positive.

On review 1 week later the patient was asymptomatic and repeat speculum examination was normal. Cultures reported normal vaginal flora and polymerase chain reaction for chlamydia and gonorrhoea were negative. Her Pap smear was normal. Safe sex practices were discussed, including the increased risk of pelvic inflammatory disease with an IUD. Blood tests for blood borne STIs were discussed and offered.

Discussion

The use of tampons can be dated back to the ancient Egyptians and Greeks of the 5th century BC when they were fashioned to absorb fluids in body cavities. Islamic physicians of the medieval period described the use of vaginal tampons for contraceptive purposes.[1] The vaginal tampon with applicator was invented in 1929 by Dr Earle Haas and was later popularised by commercial firms.

Tampon as a foreign body

Tampons are by far the most common iatrogenic foreign bodies inserted vaginally with an annual usage of about 5 billion units in North America. Other iatrogenic intravaginal foreign bodies include contraceptive and gynaecological devices. Although unintentional vaginal foreign bodies are found more often in children than in adults,[2,3] transient intravaginal objects may be left behind or forgotten (eg. sexual aids,[4,5] pessaries[6] and contraceptive sponges). Retained tampons are a common clinical finding, especially when more than one is inserted to control heavy menstrual flow. However, formal reporting of the incidence of retained tampons is lacking in the medical literature. We were surprised to find only two articles despite searching MEDLINE, Ovid Database and EMBASE since inception to November 30 2010, using the keywords 'retained', 'vaginal' and 'tampons'. One article reported a case of retained vaginal tampon as a rare cause of acute abdomen,[7] and the other described the ultrasound and magnetic resonance imaging findings of a retained vaginal tampon in a patient with vaginal duplication.[8]

In clinical practice, retained vaginal tampons should be included as a differential diagnosis for persistent vaginal discharge and abdominal pain.[7] During a menstrual cycle, a vaginal tampon normally habours bacteria of the genera Lactobacillus, Bacteroides and Staphylococcus.[9] The most concerning pathogen for a retained tampon is the overgrowth of *Staphylococcus aureus*, the culprit for the notorious outbreak of tampon related TSS in the 1980s (*Table 1*).

Summary

- Retained tampons are the most common intravaginal foreign bodies leading to indolent infections and potentially life threatening TSS.
- Retained tampons may easily be overlooked as a differential diagnosis for patients presenting with odorous vaginal discharge.
- It is best practice to perform a pelvic examination for all patients with vaginal discharge, but this is absolutely essential in

Table 1. Facts and features of toxic shock syndrome

- TSS was first described in the 1920s[10] and became better understood in 1978[11]
- TSS presents as an acute syndrome complex associated with release of endotoxin from *Staphylococcus aureus* infection, leading to:
  - high fever
  - generalised erythroderma
  - vomiting
  - diarrhoea
  - hypotensive shock, and
  - acute renal failure
- Some authors have speculated that the plague of Athens (430–427 BC) was due to a form of TSS[12]
- In 1982, an article published in *the Canadian Medical Association Journal* reported a 2 year surge of menstrual TSS cases associated with tampon use[13]
- Data from the ensuing decade pointed to a particular brand of tampon with superabsorbent characteristics having highest risks for menstrual TSS[14–16]
- This prompted public health intervention to lower the absorbency of tampons, and the incidence of menstrual TSS was substantially reduced[15]

women presenting with pelvic pain and those with an IUD in situ.

- This case of an easily missed cause is a reminder to clinicians about the golden rule of thorough history taking with appropriate physical examination in order to exclude or confirm a diagnosis.

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