

Case Report

Toxic Shock Syndrome within 24 H of an Office Hysteroscopy

Nanak Bhagat, Akilandeshwari Karthikeyan, Sanjaya Kalkur

Department of Obstetrics and Gynaecology, Southend University Hospital, Prittlewell Chase, Southend on Sea, SS0 0RY, UK

ABSTRACT

Office hysteroscopy is now a common procedure performed to look at the endometrial cavity and is relatively free of serious complications. A 68-year-old lady, previously fit and well, presented with abdominal pain, rigors, sweats, and vomiting within 24 h of an outpatient hysteroscopy for postmenopausal bleeding. She was diagnosed with streptococcal toxic shock syndrome (STSS) due to Group A beta-hemolytic streptococci. She was managed in the Intensive Care Unit, with inotropic and antibiotic support. She recovered eventually and was discharged home with oral antibiotics. Toxic shock syndrome due to Streptococci is an unusual occurrence, whose incidence has been slowly increasing over the years. However, this appears to be the first case of STSS manifesting within 24 h following an outpatient hysteroscopy.

KEYWORDS: *Complication, office hysteroscopy, outpatient hysteroscopy, streptococcal toxic shock syndrome*

INTRODUCTION

Outpatient hysteroscopy is an established diagnostic test that is in widespread use.^[1] Although generally safe as with any procedure, complications can occur. However, the chances of certain rare complications that have not yet been reported in literature are a conundrum as there is no previous data to quote from. Even prospective studies conducted have not mentioned complications that have not yet occurred.^[2] It is just a theoretical possibility that has turned into an actual scenario, so much so that, even the RCOG hysteroscopy consent guidelines do not mention complications such as toxic shock syndrome (TSS).^[3]

We report a case of fulminating TSS following outpatient hysteroscopy which is the first such reported case.

CASE REPORT

A 68-year-old lady, para 3, presented with an episode of postmenopausal bleeding. A transvaginal ultrasound scan revealed an endometrial thickness of 5 mm. An outpatient hysteroscopy was done at 1450 h. The procedure was uneventful, cavity, and ostia appeared normal. Endometrial biopsy was not possible as the patient found it painful.

Within 15 h of the procedure, she presented to the emergency department (A and E) with abdominal

pain, nausea, vomiting, fever, sweats, and rigors. On examination, she was tachycardic, hypotensive, and had an oxygen saturation of 92%. Examination findings were unremarkable. A high vaginal swab (HVS) was sent for microbiological assessment. Her bloods in the A and E were normal. An immediate computed tomography (CT) scan of the abdomen and pelvis was requested to rule out any perforation or collection in the pelvis.

While awaiting results, the patient started to desaturate. Her temperature spiked to 38.1°C, her blood pressure started falling to 84/48 mm Hg by mid-day. Arterial blood gases (ABGs) were done revealing a normal pH with a lactate of 3.6. She was admitted to the Intensive Treatment Unit (ITU) for septic shock and inotropic support. Regular ABG's revealed a worsening lactate. She was started on augmentin, metronidazole, and a stat dose of gentamicin. Procalcitonin, which is a sepsis marker, was more than 10.0 µg/L.^[4] With microbiology input, the metronidazole was replaced with gentamicin. The patient responded to the antibiotics. The fever started

Address for correspondence: Dr. Nanak Bhagat,

Department of Obstetrics and Gynaecology, Southend University Hospital, Prittlewell Chase, Southend on Sea, SS0 0RY, UK.
E-mail: nanakbhagat@gmail.com

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Bhagat N, Karthikeyan A, Kalkur S. Toxic shock syndrome within 24 h of an office hysteroscopy. *J Mid-life Health* 2017;8:92-4.

Access this article online

Quick Response Code:



Website: www.jmidlifehealth.org

DOI: 10.4103/jmh.JMH_93_16

coming down, her lactate levels started decreasing after reaching a maximum of 4.25.

On day 3 of admission, she was stable enough to be stepped down to high dependency unit. Augmentin was replaced by 1.2 g benzylpenicillin QDS and clindamycin was added. Inotropes were stopped. She was then transferred to the gynecology ward. She was afebrile, vitals stable. Her antibiotics were switched to oral formulations. She was discharged home 8 days later.

Her investigations revealed a normal CT scan, ruling out a perforation, and any pelvic collection, which could have been a nidus for an infection. The HVS revealed a growth of beta-hemolytic Group A Streptococci (GAS). The blood cultures sent on the day of admission also revealed a growth of the same, thus confirming her diagnosis of having septic shock following GAS.

DISCUSSION

Hysteroscopy is a procedure, by which one is able to visualize the endometrial cavity of the patient. Over the years, it has become a commonly performed procedure, so much so that a hysteroscopy and a biopsy are considered to be the gold standard for the diagnosis of the cause of postmenopausal bleeding.^[5]

The main purpose behind finding out the cause for the bleeding is to diagnose/rule out malignancy, namely, endometrial cancer. As with any procedure, there are a few risks and complications that can ensue. Infection is one of them. However, TSS within 15 h of the procedure in a healthy lady is a previously unheard of complication.

TSS is a multisystem, toxin-mediated disease that can be caused by either *Staphylococcus aureus* or GAS (*Staphylococcus pyogenes*). Infection with these bacteria (GAS) can be asymptomatic, may present as simple skin infections, or soft tissue infections such as necrotizing fasciitis and myositis, pneumonia, bacteremia, or even TSS.^[6]

Frequently, patients require mild analgesia postoperatively. The use of nonsteroidal anti-inflammatory drugs can mask the symptoms or even predispose the patient to more severe streptococcal infection and shock.^[6] The portal of entry for streptococci cannot always be proven.^[5,6] Often there might not be any visible skin injury/mucosal breach that can be positively identified as being a source. However, even microabrasions may be enough to facilitate systemic spread of the bacteria. Viral infections, such as varicella and influenza, also act as a portal in some cases [Table 1].^[6]

There has been a sudden increase in reports of severe GAS infections worldwide recently, although the reason

is unclear; it might involve host factors, in the form of host immunity, and bacterial factors, probably involving certain strains or a change in the prevalence of the organism.^[7] Although apparently increasing in frequency, streptococcal TSS (STSS) is seen relatively uncommon in most emergency departments and Intensive Care Units. It is, therefore, important to have a high index of suspicion for this condition [Table 2].^[7]

Because of the rapid and fulminant presentation, we need to start treatment even before microbiological confirmation. Treatment is two-pronged: symptomatic management and eradication of the causative organism. Early presentation of patients results in prompt treatment. In our patient as she presented quickly to the A and E, the outcome changed.

Initial therapy is aimed against both *S. aureus* and GAS. Although GAS is susceptible to penicillins, clindamycin is considered superior as its efficacy is not affected by the inoculum size or stage of growth.

As STSS causes intractable hypotension and diffuse capillary leak, a massive amount of intravenous fluid

Table 1: Diagnosing streptococcal STSS

A. Isolation of group A Streptococcus
From a sterile site
From a nonsterile body site
B. Clinical signs of severity
1. Hypotension
2. Clinical and laboratory abnormalities (requires two or more of the following):
(a) Renal impairment
(b) Coagulopathy
(c) Liver abnormalities
(d) Acute respiratory distress syndrome
(e) Extensive tissue necrosis, i.e., necrotizing fasciitis
(f) Erythematous rash
Definite Case = A1 + B (1+2)
Probable Case = A2 + B (1+2)

Table 2: Risk Factors for invasive Group A streptococcal infection

Age <9 yr or >60 yr
Race: Native American
Varicella
African American
HIV/AIDS
Cancer
Diabetes
Heart Disease
Lung Disease
Alcohol Abuse
Nursing Home

resuscitation is necessary. If in shock, patients may also require central venous monitoring and inotropic support. Further supportive management may be required depending on the system involved.

Newer methods involve using intravenous immunoglobulins, which act by neutralizing circulating streptococcal toxins. Hyperbaric oxygen has been used anecdotally although its efficacy is unclear. High-dose corticosteroids have not been shown to be beneficial but can be considered in patients with refractory shock despite adequate antimicrobial therapy and source control.^[8] Furthermore, evidence shows that routine antibiotic prophylaxis before an outpatient hysteroscopy is not recommended.^[9]

In the field of obstetrics and gynecology, cases of severe GAS have been seen postpartum, following hysterectomy and an endometrial biopsy.^[10,11] However, no such complication has yet been reported following an outpatient hysteroscopy.

CONCLUSION

STSS can manifest in a very myriad manner, and one must have a high index of suspicion and a low treatment threshold. Since 1987, there has been an increase in virulent streptococcal disease reported worldwide.^[7] However, there have not been any report of STSS following an office hysteroscopy within 24 h reported in literature.

Outpatient hysteroscopy, although a safe procedure generally associated with minimal complications, can result in serious complications as reported in this case. Therefore, outpatient hysteroscopy units should inform their patients to report early if feeling unwell after the procedure. Early presentation of patients results in prompt treatment and a good outcome as shown in our case.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Royal College of Obstetricians and Gynaecologists. Green Top Guideline No. 59: Best Practice in Outpatient Hysteroscopy. London: Royal College of Obstetricians and Gynaecologists; 2011.
2. Jansen FW, Vredevoogd CB, van Ulzen K, Hermans J, Trimbos JB, Trimbos-Kemper TC. Complications of hysteroscopy: A prospective, multicenter study. *Obstet Gynecol* 2000;96:266-70.
3. Royal College of Obstetricians and Gynaecologists. Consent Advice No. 1: Diagnostic Hysteroscopy Under General Anaesthesia. London: Royal College of Obstetricians and Gynaecologists; 2008.
4. Wacker C, Prkno A, Brunkhorst FM, Schlattmann P. Procalcitonin as a diagnostic marker for sepsis: A systematic review and meta-analysis. *Lancet Infect Dis* 2013;13:426-35.
5. Gimpelson RJ, Whalen TR. Hysteroscopy as gold standard for evaluation of abnormal uterine bleeding. *Am J Obstet Gynecol* 1995;173:1637-8.
6. Stevens DL. Streptococcal toxic-shock syndrome: Spectrum of disease, pathogenesis, and new concepts in treatment. *Emerg Infect Dis* 1995;1:69-78.
7. Baxter F, McChesney J. Severe group A streptococcal infection and streptococcal toxic shock syndrome. *Can J Anaesth* 2000;47:1129-40.
8. Venkatraman R. Available from: <http://www.emedicine.medscape.com/article/169177-overview>. [Last accessed on 2016 Nov 26].
9. Gregoriou O, Bakas P, Grigoriadis C, Creatsa M, Sofoudis C, Creatsas G. Antibiotic prophylaxis in diagnostic hysteroscopy: Is it necessary or not? *Eur J Obstet Gynecol Reprod Biol* 2012;163:190-2.
10. Mourton S, Rich W. Group A streptococcal toxic shock syndrome after an office endometrial biopsy: A case report. *J Reprod Med* 2006;51:665-8.
11. Aronoff DM, Mulla ZD. Postpartum invasive group A streptococcal disease in the modern era. *Infect Dis Obstet Gynecol* 2008;2008:796892.