Case Report

Tubal Schistosomiasis: A not so rare cause of Ectopic Gestation

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Abstract

Schistosomiasis, a neglected Tropical disease affects over 220 million people worldwide and is endemic in Nigeria. Reproductive difficulties are some of the consequences of chronic infestation with Schistosoma spp particularly S. haematobium. We present the case of a 20 year old nullipara who was managed for ectopic pregnancy on a background of a previous first trimester miscarriage. Intraoperatively, she was found to have bilateral tubal pathology, histology of which turned out to be schistosoma granuloma.

Keywords: Ectopic pregnancy, neglected tropical disease, Nigeria, schistosomiasis, tubal schistosomiasis

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Introduction

Schistosomiasis (Bilharzia) is a Neglected Tropical Disease (NTD) caused by a parasitic worm spread to people through activities where they come in contact with infected water.[1,2] In 2017, over 220 million people were estimated to have the disease, with over 90% living in Africa.[2] Nigeria is one of 58 countries where it is endemic with moderate-to-high transmission.[2] Female genital schistosomiasis (FGS) is estimated to affect almost 56 million girls and women in sub-Saharan Africa.[3] It has both acute and chronic presentations.[1,2] Acute presentation with nonspecific genitourinary symptoms such as hematuria, dysuria, offensive vaginal discharge, pelvic pain, menstrual irregularities, and intermenstrual bleeding is often misdiagnosed or poorly treated.[1,4] Chronic infestation is more likely to be asymptomatic.[4] Among the chronic manifestations, ectopic pregnancy and subfertility are well documented in literature.[1,4-15] The pathophysiology of tubal damage is not fully understood but is thought to be a result of either a strong inflammatory reaction around viable eggs of schistosoma or a fibrosis around nonviable eggs and shell fragments. The lesions grow over time, leading to tubal narrowing, occlusion, or impaired motility.[1,16] FGS has devastating consequences in a cultures where high premium is placed on reproduction.[12] The acute symptoms of bloody vaginal discharge, postcoital bleeding, genital itching or burning sensation, pelvic pain, or pain during intercourse are the most common presentations.[11,17] Although ectopic pregnancy is not a common presentation of FGS, there is mounting evidence that it is an overlooked cause of ectopic pregnancy in endemic settings where it can account for up to 3.6% of cases.[4]

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Case Report

Mrs. PA, a 20-year-old gravida 2 para 0 + 1, was admitted through the Gynecology Unit of the Accident and Emergency Department of Ahmadu Bello University Teaching Hospital. She presented with a 6-week history of amenorrhea and a 2-week history of bleeding par vaginam and lower abdominal pain that had become acute in the past 12 h. Bleeding was associated with clots, dizziness, palpations, and a syncopal attack a few hours before presentation. She had a spontaneous first-trimester abortion the year before, with no postabortal complications. She had never practiced any form of contraception. There was no history of vaginal discharge or hematuria in the past, and she had no history of contact with infested streams or rivers.

Examination revealed a young acutely ill woman who was markedly pale, with pulse rate of 126 beats/min, and blood

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pressure of 80/50 mmHg. She had generalized abdominal tenderness with guarding and rebound tenderness but no shifting dullness. Pelvic examination showed blood clots in the vagina, a closed cervical os, and bogginess of the pouch of Douglas (uterus and adnexae were difficult to delineate due to tenderness).

Urgent blood investigations showed a hemoglobin concentration of 8.5 g/dL (packed cell volume of 25%) and blood chemistry was within the normal range. A diagnosis of a ruptured ectopic pregnancy was made. Ultrasound scan showed a complex mass in the right adnexium with a gestational sac harboring a fetal pole with good cardiac activity; an empty normal-sized uterus measuring 4.02 cm in anteroposterior diameter with endometrial echoplate of 1.42 cm and significant fluid collection in the hepatorenal recess and right paracolic gutter.

Consent was obtained for emergency laparotomy after counseling. Intraoperative findings were those of a tubal abortion with massive hemorrhage from the right ampulla [Figure 1], a frozen left tube with a 2 cm long, calcified mass at the ampulla extending to the fimbrial end [Figure 2], and 2 L of hemoperitoneum. A total right salpingectomy was performed to secure hemostasis and the calcified mass was removed for histology. She received 4 units of blood before she was stable enough for discharge.

Histopathology of the right fallopian tube revealed expanded edematous tubal wall, decidua, hemorrhage, and fallopian tube fimbriae reminiscent of recent gestation. The left fallopian tube biopsy showed discrete granulomata composed of multinucleated giant cells and mononuclear cellular infiltrates including eosinophils [Figure 3]. There were pigmented *Schistosoma haematobium* ova within the granulomata.

Subsequent urine and stool microscopy did not reveal ova of *S. haematobium* or *Schistosoma mansoni*. She was educated on the findings and their implication and treated with tablet praziquantel. She was also asked to present early in the unlikely event she missed her period or suspected pregnancy in future.

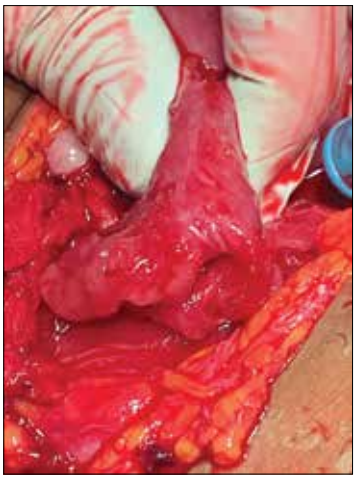

Figure 1: Bleeding right fimbrial end

Figure 2: Calcified mass in the left fallopian tube

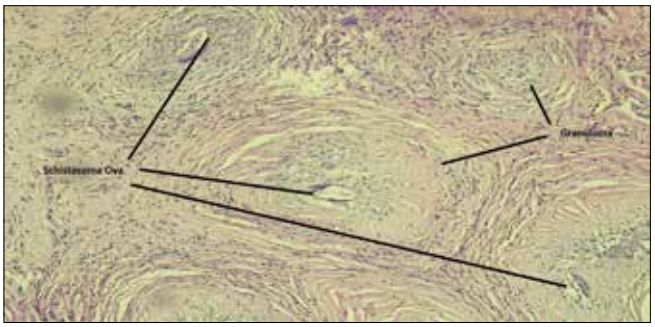

Figure 3: Histologic appearance of calcified mass magnification ×10

Discussion

Ectopic pregnancies account for 1.4% of pregnancies in our center.[18] The majority (86.7%) of cases of ectopic pregnancy are ampullary similar to this case.[18] Tubal abortion is not common, occurring in only 2.8%.[18] FGS, defined as the presence of schistosoma ova in the upper and lower female reproductive tracts is common in areas endemic for schistosomiasis like Nigeria.[1] Lesions in the upper reproductive tract have been noted in up to 80% of postmortem specimens in endemic populations.[1] Although our patient could not recall having childhood hematuria, it has been documented that 23%–41% of women that eventually develop FGS may not excrete *schistosoma* in their urine or have detectable hematuria.[17,19] The pathology of schistosomiasis-related reproductive injury is related to the host immune reaction to the ova deposited by the parasite as well as the parasite density.[1,16]

Reproductive complications such as infertility, abortion, and ectopic pregnancy occur in chronic FGS.[6] Unfortunately, because genitourinary schistosomiasis can often be asymptomatic or present with nonspecific genitourinary symptoms, the diagnosis is often missed at an early stage when treatment could avert the reproductive complications.[1,4,9,12]

The diagnosis of schistosomiasis was made following the ectopic pregnancy she had. It is possible that the previous spontaneous abortion she had was as a result of the previously undiagnosed schistosomiasis. This patient could have had bilateral salpingectomy for a treatable pathology, thus altering her reproductive capability regardless of her desires. In this instance, the patient was treated with praziquantel and will have laparoscopy or falloposcopy to determine the state of the remaining tube.

The prevention of schistosomiasis relies on vector control by the elimination of the snail host or its habitat, provision of clean safe water by water treatment, sanitation, health education, and periodic, targeted large-scale chemotherapy with praziquantel.[3] Unfortunately, chemotherapy does not eliminate immature worms and reinfection can occur after treatment.[20] A schistosomiasis vaccine could create a long-term decrease in illness spectrum and transmission. However, as yet, schistosomiasis vaccines are unavailable, though experiments in animals are currently underway.[20]

Many clinicians do not consider schistosomiasis when evaluating patients with reproductive problems such as infertility, abortion, or ectopic pregnancy. This report is intended to remind clinicians managing women who present with reproductive system complaints to not only have a high index of suspicion but also to screen for schistosomiasis using history, examination as well as microbiological and radiological investigations. It also highlights the need for routine screening and treatment of girls from a prepubertal age to forestall the reproductive health complications that even asymptomatic schistosomiasis can lead to.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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