Diagnostic Challenges of Female Genital Schistosomiasis: A Case Report from Federal Teaching Hospital Gombe, Nigeria.

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Abstract

Background: Female Genital Schistosomiasis is a neglected gynaecological complication of urogenital schistosomiasis that affects girls and women in sub-Sahara Africa. Female Genital Schistosomiasis has been known for centuries, yet its diagnosis and management are posing a great challenge to medical professionals.

Case report: A case of a 27-year old woman being evaluated for recurrent ovarian cysts. Ultrasound examination revealed a thick-walled right adnexal cyst containing clear fluid measuring 5.2cm by 4.7cm. Histology report after right cystectomy showed a cyst wall lined by luteinized granulosa and theca cells and the cortex showed calcified oval to round structures suggestive of calcified schistosoma ova. She had a course of treatment with praziquantel tablets and made an uneventful recovery.

Conclusion: This calls for vigilance as well as more studies on female genital schistosomiasis of the upper genital organs and exploration of indirect, non-invasive and syndromic diagnostic methods for female genital schistosomiasis of the upper genitalia at the point of care.

Keywords: Female genital schistosomiasis, *schistosoma* eggs, ovarian cyst.

Introduction

Female Genital Schistosomiasis (FGS) is an emerging neglected gynaecological disease in sub-sahara Africa that is associated with poverty, inadequate sanitation and limited access to safe drinking water.[1,2] It is a complication of urogenital schistosomiasis and occurs when schistosome eggs are trapped in genital tissues and subsequently elicit a chronic inflammatory response and characteristic genital mucosal lesions.[3] The disease is estimated to affect about 20-120 million girls and women in sub-sahara Africa which they acquire through contact with contaminated water sources used for their daily activities.[4,5] Female genital schistosomiasis has been reported to occur in 33 to 75% of schistosomiasis-infected females.[6] Entrapment of

schistosoma eggs in fallopian tubes and ovaries with resultant pathologies have been documented[7,8] and this causes severe damages to reproductive organ and a variety of reproductive health complications such as infertility, ectopic pregnancy, miscarriage, premature birth, low birth weight and even maternal death.[9] Studies from Nigeria have reported atypical presentation of FGS.[10,11] The serious socioeconomic consequences associated with reproductive health complications of upper genital FGS include stigma and divorce among women affected.[7,8]

Female Genital Schistosomiasis has been known for centuries, yet its diagnosis and management are still a scientific puzzle to medical professionals. The sandy patches (grainy and homogeneous), rubbery papules and abnormal blood vessels by visual inspection of the cervicovaginal mucosa used to diagnose the lower genital tract of FGS is neither specific to FGS nor is the diagnosis of FGS with colposcopy feasible in most health facilities in schistosomiasis-endemic countries**.** In addition, colposcopy is limited to observing only lesions on the wall of the vagina and on the cervix.[12] Schistosomiasis of the upper genital tract is less accessible for clinical and diagnostic examination. This explains the incidental diagnosis of upper genital tract FGS from histological examination of excised tissues in most cases.

This paper describes the diagnostic challenges faced by the members of Female Genital Schistosomiasis Society of Nigeria and gynaecologists from Specialist Hospital Gombe and Federal Teaching Hospital Gombe to arrive at a diagnosis of FGS of upper genital tract in this patient.

Case report

A 27-year old woman referred to the Gynaecology Clinic of Federal Teaching Hospital Gombe from the Outpatient Department of the same hospital on account of recurrent right sided lower abdominal pain of one month duration with associated vaginal discharge and deep dyspareunia. There was no history of haematuria or other urinary symptoms.

The patient was an undergraduate student of horticulture who had had three successful deliveries two years prior to presentation. She was on progesterone only injectable contraception but discontinued six months before presentation due to a desire to conceive. She lived in a non-schistosomiasis-endemic area but had visited swamp farmland on a field visit as part of her course work. She had had left ovarian cystectomy 7 years earlier at a peripheral hospital without histopathology result.

Physical examination revealed a well-nourished young lady that was not pale and not jaundiced. Abdominal examination revealed suprapubic tenderness and right iliac fossa tenderness. There were no palpable masses. Endocervical swab culture demonstrated no pathogen. Her packed cell volume was 35%. Abdominopelvic ultrasound demonstrated a thick-walled right adnexal cyst containing clear fluid measuring 5.2cm by 4.7cm. She was managed with oral antibiotics and analgesics and worked up for exploratory laparotomy.

The intraoperative findings during the exploratory laparotomy were a right ovarian cyst measuring 12.0 cm by 8.0 cm containing straw coloured fluid with the right fallopian tube attached to the cyst wall. She had right cystectomy and the sample was sent for histopathological examination which showed the cyst wall was lined by luteinized granulosa and theca cells and the cortex showed calcified oval to round structures suggestive of calcified schistosoma ova as shown Figure 1 below. She had a course of treatment with praziquantel tablets at a dose of 40mg/kg and made an uneventful recovery. She went on to have two successful pregnancies which resulted in livebirths afterwards

Discussion

This case report describes the ovarian involvement of schistosomiasis in a patient being evaluated for recurrent ovarian cysts. Though FGS of the vulva has been reported from Federal Teaching Hospital Gombe[11], this is the first case where eggs of schistosome were visualized in the histological examination at this hospital. The clinical manifestations of FGS include genital lesions like yellow sandy patches, mucosal bleeding, abnormal blood vessels, ulcer, abnormal menstruation, ectopic pregnancies, miscarriages, painful coitus and infertility.[10]

The involvement of the ovary in genital the ovary

schistosomiasis has been described in previous case reports as incidental findings during histological investigations for benign conditions including tubo-ovarian abscess, pelvic adhesions, ovarian cysts, ectopic pregnancy and tubal ligation just like the case being reported.[13] In previous reports, the ovary represented 0.5% of unusual sites of schistosomiasis involvement and about 50% of cases involving the female genital tract.[14] These could be an under-reporting of the prevalence since lesions involving the upper genital tract are faced with diagnostic challenges just like the case being reported. Similar diagnostic challenges have been reported from Yola and Gombe.[10,11]

The patient, an indigene of a non-schistosomiasis endemic community in Gombe State, may have acquired this infection during her field trip to swamp farmland for practical course work for her undergraduate study. This calls for the need of healthcare professionals to obtain a detailed geographic, residential and travel history from female patients presenting with lower abdominal pain, abdominal swelling, vaginal discharge or menstrual abnormality to identify the source of infection when upper genital tract FGS is strongly suspected. The localization of schistosome lesions in the genital tract may be related to age of the patient. The vulva is most often affected in very young girls or those at puberty while the vagina, cervix and upper genital tract are more affected at a later age.[15] The anatomy of the genital organs, principally due to vascular adaptations starting during puberty, early womanhood and culminating during pregnancy accounts for this finding.[15] The patient being reported in this case is in her early adulthood and this is in conformity with the above statement.

A previous study has described two distinct patterns of tissue reactions in the histopathological specimens: viable eggs which consist of a strong inflammatory reaction characterized by diffuse infiltration of plasma cells, lymphocytes, eosinophils and macrophages around sites of egg deposition, and nonviable eggs or calcified shells which consist of a fibrous connective tissue reaction with a minimal cellular infiltrate best described as scar tissue.[16] The case being reported is that of nonviable eggs and calcified shells and it consists of a fibrous connective tissue reaction with a minimal cellular infiltrate best described as scar tissue.

It is possible that many adult women could be having FGS involving the upper genital tract in endemic communities but undiagnosed because of the asymptomatic nature of the disease. It is interesting to note that FGS of the upper genital tract was never a differential in the initial diagnosis of this case because of non-availability of non-invasive diagnostic tools for upper genital FGS investigation. This means that the diagnosis of genital schistosomiasis would never have been made in this patient without histological examination. This case report calls for community-based research to describe the true prevalence of the FGS in schistosomiasis-endemic communities in Nigeria. The need to raise awareness of FGS among healthcare professionals and the public cannot be overlooked.

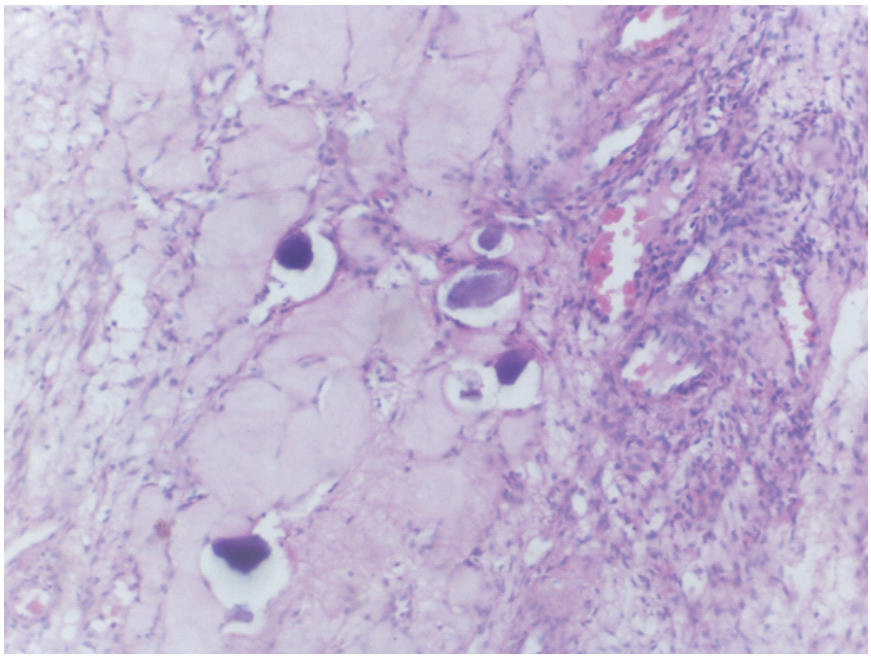

Figure 1: H&Ex100 showing ova of schistosomes embedded within ovarian stroma with foci of inflammatory infiltrates.

Conclusion

Female Genital Schistosomiasis has extremely serious consequences on the quality of reproductive health of affected women and girls if early diagnosis and prompt treatment are not done. Therefore, this paper calls for more research on FGS and exploration of indirect, non-invasive and syndromic diagnostic methods for FGS of the upper genitalia at the point of care. The physicians and gynaecologists in endemic countries of schistosomiasis should be aware of and consider FGS in the differential diagnosis of gynaecological diseases being investigated.

Conflict of Interests: The authors have no conflicts of interest whatsoever.

Ethical consideration: Informed consent was obtained from the patient for anonymous publication of data in clinical report.

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