Unifya
ISSN : XXXX-XXXX | Vol 1, Issue 1, Oct – Dec, 2025

PUBLISHED BY
ERUDEXA PUBLISHING

Original Article

Received: 15 Oct 2025 | Accepted: 08 Nov 2025 |
Published: 10 Nov 2025

Fallopian Tube Schistosomiasis Presenting as Ruptured Ampullary Ectopic Pregnancy: A Case Report and Review of Literature

Muhammed Ramon Lawal[1], Usman Abba[1], Muazu Ishaqa Shuaibu[2,3], Anga Fatima Inusa[4,5], Modu Abubakar Kolomi[6], *Ibrahim Rabiu[5,7], Lawan Aliyu Ibrahim [5,8,9].

1. Department of Obstetrics and Gynaecology, Yobe State University, Nigeria
2. Department of Family Medicine, Federal Medical Centre, Kumo, Gombe State, Nigeria
3. Department of Family Medicine, Gombe State University, Nigeria
4. Department of Obstetrics and Gynaecology, Federal Medical Centre, Jabi, Abuja, Nigeria
5. Female Genital Schistosomiasis Society of Nigeria.
6. Department of Pathology, Federal Medical Centre, Nguru, Yobe State, Nigeria
7. Department of Community Medicine, Gombe State University, Nigeria
8. Department of Histopathology, Gombe State University, Nigeria
9. Department of Histopathology, Federal Teaching Hospital, Gombe, Nigeria

Abstract

Background: Female genital schistosomiasis (FGS) is an under-recognized gynaecologic manifestation of *Schistosoma haematobium* infection. It affects millions of women in endemic regions, yet fallopian tube involvement remains uncommon and is rarely diagnosed preoperatively. FGS has been associated with infertility, ectopic pregnancy, and recurrent pregnancy loss. A case description of female genital schistosomiasis involving fallopian tube that presented with features of ectopic pregnancy.

Case Presentation: The study reports a case of a 25-year-old lady who was carrying her sixth pregnancy and has had five recurrent first-trimester miscarriages who presented with severe abdominal pain and vaginal bleeding to emergency unit of Yobe State Specialist Hospital. A late obstetric ultrasound had estimated a gestational age of seven weeks and 4 days. On presentation, clinical evaluation revealed signs of hemoperitoneum. She underwent emergency surgery, and a ruptured right ampullary ectopic pregnancy was identified, necessitating a right partial salpingectomy. Postoperative recovery was uneventful. Histopathology of the excised tube unexpectedly revealed schistosomal ova embedded within the tubal wall, confirming fallopian tube schistosomiasis.

Conclusion: Fallopian tube schistosomiasis is an overlooked but preventable cause of ectopic pregnancy. Strengthened surveillance, integration of FGS screening into reproductive health services, and increased clinician awareness are urgently needed in schistosomiasis-endemic regions.

Keywords: Female genital schistosomiasis; ectopic pregnancy; fallopian tube; Schistosoma haematobium; recurrent miscarriage

Introduction

Schistosomiasis is one of the most prevalent neglected tropical diseases worldwide, affecting over 230 million people, with more than 90% of cases occurring in sub-Saharan Africa [1]. Nigeria bears one of the highest burdens of schistosomiasis globally [2], particularly infection due to Schistosoma

haematobium, largely as a result of persistent exposure to contaminated freshwater sources, inadequate sanitation, and limited access to preventive chemotherapy. While urinary schistosomiasis is well recognized, genital involvement—termed female genital schistosomiasis (FGS)—remains underdiagnosed and poorly integrated into routine reproductive and sexual health services in endemic regions [3,4].

Female genital schistosomiasis results from the deposition of S. haematobium ova within the tissues of the female reproductive tract, triggering a chronic inflammatory response characterized by granuloma formation, fibrosis, neovascularization, and epithelial damage [5]. These pathological changes may involve the vulva, vagina, cervix, uterus, ovaries, and fallopian tubes. Clinically, FGS presents with abnormal vaginal discharge, genital itching/burning, vaginal bleeding, pelvic pain, dyspareunia, infertility, recurrent miscarriage, and adverse pregnancy outcomes [6]. However, these manifestations are frequently misdiagnosed as sexually transmitted infections, pelvic inflammatory disease, or gynaecological malignancies, contributing to delayed diagnosis and inappropriate management [5–7].

Although lower genital tract involvement is more commonly described, upper genital tract disease—including tubal and ovarian schistosomiasis—is increasingly recognized. Fallopian tube schistosomiasis remains rare in the literature, largely because diagnosis requires histopathological confirmation following surgical intervention. Consequently, tubal involvement is often detected incidentally during surgery for ectopic pregnancy, infertility, or chronic pelvic pain [8,9]. Histological examination typically reveals terminal-spined ova surrounded by granulomatous inflammation and fibrosis, leading to luminal narrowing and disruption of normal tubal architecture [8].

Ectopic pregnancy remains a major cause of maternal morbidity and mortality in low- and middle-income countries, accounting for up to 10% of pregnancy-related deaths [10]. Tubal damage is the most significant risk factor, as disruption of ciliary function and tubal patency impairs embryo transport to the uterine cavity [10]. In schistosomiasis-endemic regions, chronic parasitic infection of the fallopian tubes represents an under-recognised contributor to tubal dysfunction and ectopic implantation [9,11].

Early pathological descriptions dating back to the late nineteenth century documented schistosomal lesions in the female genital tract, yet this association remains insufficiently appreciated in contemporary clinical practice [12].

Emerging contemporary evidence has reinforced the association between FGS and adverse reproductive outcomes. Recent case reports have documented tubal ectopic pregnancies and recurrent pregnancy loss attributed to genital schistosomiasis, with histopathological confirmation of S. haematobium eggs within tubal and ovarian tissues [12,13]. These findings highlight the biological plausibility of schistosomal-induced fibrosis and chronic inflammation as mechanisms underlying ectopic implantation and pregnancy failure. Despite this growing evidence, awareness of FGS among clinicians remains limited, particularly in endemic regions, leading to continued under-diagnosis [13]. The World Health Organization recognizes FGS as a significant reproductive health concern and has called for its integration into schistosomiasis control programs and sexual and reproductive health services [15].

This case report describes a young Nigerian woman with recurrent first-trimester miscarriages who presented with a ruptured ampullary ectopic pregnancy due to fallopian tube schistosomiasis. By presenting this case and reviewing relevant literature, we aim to highlight the role of tubal schistosomiasis in adverse pregnancy outcomes and emphasise the need for heightened clinical suspicion and integrated control strategies in endemic settings.

Case Presentation

A 25-year-old woman, who was her sixth pregnancy with past five recurrent first trimester miscarriages, presented to the Emergency Department of Yobe State Specialist Hospital on 23 October 2025 with severe lower abdominal pain and per-vaginal bleeding of one day duration. She was unsure of her last menstrual period; however, a late obstetric ultrasound scan had estimated a gestational age of 7 weeks and 4 days, with an expected date of delivery of 7 June 2026. Her obstetric history was significant for five previous first-trimester miscarriages.

On examination, she was tachycardic and in severe pain, with lower abdominal tenderness and guarding. Pelvic ultrasound revealed an empty uterus with significant free intraperitoneal fluid, suggestive of hemoperitoneum. A diagnosis of ruptured ectopic pregnancy was made, and she underwent emergency exploratory laparotomy.

Intraoperatively, approximately 1.2 litres of hemoperitoneum was evacuated, and a ruptured right ampullary ectopic pregnancy was identified. A right partial salpingectomy was performed. The postoperative period was uneventful, and the patient was discharged on the fifth day of her admission.

She presented for follow-up on 10 November 2025, when histopathological examination of the excised right fallopian tube revealed granulomatous inflammation with multiple terminal-spined ova consistent with Schistosoma haematobium, confirming the diagnosis of fallopian tube schistosomiasis as shown in the figures below. She had two doses of 600mg praziquantel at four weeks interval

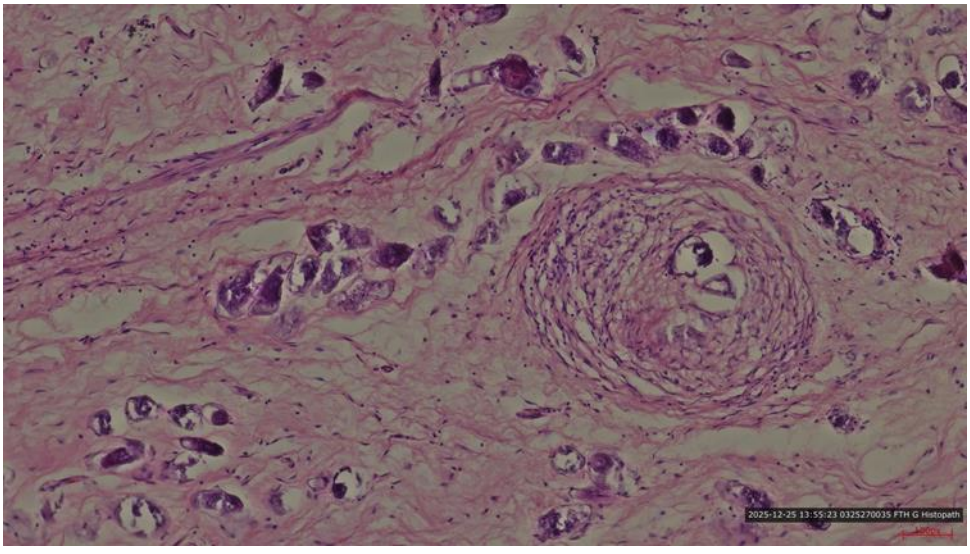

Figure 1: H&Ex100: Photomicrograph showing multiple calcified Schistosoma ova with focal surrounding granulomatous reaction

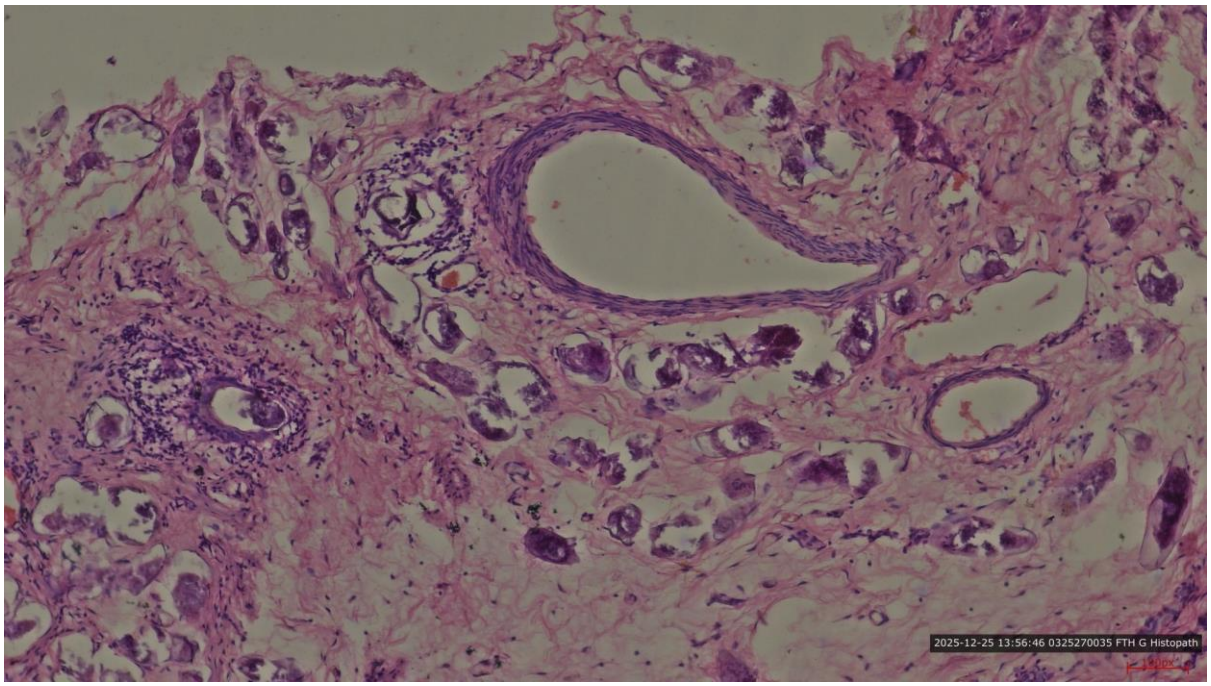

Figure 2: H&Ex100: Photomicrograph showing multiple calcified Schistosoma ova within the wall of the fallopian tube around blood vessels. Some of the ova show terminal spine, consistent with Schistosoma haematobium species

Discussion

This case illustrates a rare but clinically important presentation of fallopian tube schistosomiasis manifesting as a ruptured ampullary ectopic pregnancy in a young woman with a history of recurrent pregnancy loss. The diagnosis was established only after histopathological examination of the excised fallopian tube, underscoring the diagnostic challenges associated with female genital schistosomiasis and the likelihood that many cases remain unrecognized in endemic regions.

The pathogenesis of fallopian tube schistosomiasis involves embolization and deposition of Schistosoma haematobium ova within the tubal wall. The host immune response leads to granuloma formation, chronic inflammation, fibrosis, and scarring, resulting in distortion of tubal architecture and impaired ciliary function. These pathological changes compromise tubal patency and embryo transport, increasing the risk of ectopic implantation and subsequent tubal rupture [5,9]. The histological findings in this case are consistent with those described in previous reports and histopathological series from endemic settings [8].

Several studies have documented the involvement of the upper genital tract in schistosomiasis. Wright et al. reported extensive genital tract schistosomiasis in a Malawian cohort, with tubal involvement identified in a proportion of cases [8]. Attili et al. also described schistosomal granulomas affecting internal reproductive organs, supporting the parasite's ability to invade and damage the upper genital tract [7]. Despite this, fallopian tube schistosomiasis remains rarely reported in modern clinical literature, likely due to limited access to histopathology and low clinical suspicion.

Recent contemporary case reports further support the association between genital schistosomiasis and ectopic pregnancy. A 2025 case report described a young woman with recurrent spontaneous abortions and ruptured ectopic pregnancy, in whom S. haematobium eggs were identified in the

fallopian tube and ovarian tissue [12]. Another recent report similarly highlighted schistosomiasis as a cause of ruptured ectopic pregnancy, emphasizing the need for clinicians to consider parasitic infections in the differential diagnosis of ectopic gestation in endemic regions [13]. These findings align with the current case and strengthen the evidence linking schistosomiasis to tubal pathology and ectopic implantation.

The patient's history of five previous first-trimester miscarriages suggests possible widespread genital tract involvement. Uterine and endometrial schistosomiasis has been associated with implantation failure, early pregnancy loss, and abnormal placentation. Chronic inflammation and immune dysregulation induced by schistosomal infection may impair endometrial receptivity and early embryonic development [11,15]. Although endometrial sampling was not performed in this case, the recurrent pregnancy losses may reflect undiagnosed uterine involvement.

One of the major challenges in addressing FGS is the absence of routine screening and diagnostic pathways. Symptoms overlap with those of sexually transmitted infections and pelvic inflammatory disease, imaging findings are not helpful, and definitive diagnosis relies on histopathological confirmation, usually obtained only after surgery [6,13]. Consequently, opportunities for early diagnosis and treatment with praziquantel are frequently missed.

The public health implications of this case are substantial. The World Health Organization advocates for the integration of FGS into schistosomiasis control and sexual and reproductive health programs, including preventive chemotherapy, improved diagnostic capacity, and clinician training [14]. In Nigeria and other endemic countries, women of reproductive age are often excluded from mass drug administration programs, perpetuating chronic infection and its reproductive sequelae [2]. Integrating FGS screening into evaluations for infertility, recurrent miscarriage, and ectopic pregnancy could significantly reduce preventable reproductive morbidity.

This case highlights the need for heightened awareness among gynaecologists, pathologists, and primary care providers in schistosomiasis-endemic regions. Routine histopathological examination of resected reproductive tissues should consider schistosomiasis as a differential diagnosis. Strengthening collaboration between neglected tropical disease control programs and reproductive health services is essential to address this neglected cause of reproductive morbidity.

Conclusion

Fallopian tube schistosomiasis is a rare but significant cause of ectopic pregnancy and recurrent pregnancy loss. In endemic settings like Nigeria, clinicians should maintain high suspicion for schistosomiasis-related pathology in women presenting with abnormal pregnancy outcomes and reproductive health issues. Strengthened integration of FGS screening into reproductive, maternal, and gynecologic services is essential for early diagnosis and prevention.

Recommendations

Mass drug administration with annual praziquantel treatment should be extended to women in endemic communities. The assessment for FGS in patients with infertility, miscarriage, or ectopic pregnancy should be made routine by the gynaecologists. The need to Strengthening pathology capacity to identify schistosoma ova in the pathology from gynaecological surgeries should be emphasized. Awareness programs for gynecologists and primary care providers should be organized on regularly period.

Article Publication Details

This article is published in the **Unifya**, ISSN XXXX-XXXX (Online). In Volume 1 (2025), Issue 1 (October-December)

The journal is published and managed by **Erudexa Publishing**.

Acknowledgements

We sincerely thank the editors and the reviewers for their valuable suggestions on this paper.

Consent for publication

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

Author contributions

Muhammed Ramon Lawal: Conceptualization.

Usman Abba: Writing – review & editing.

Muazu Ishaqa Shuaibu : Writing – review & editing.

Anga Fatima Inusa: Methodology.

Modu Abubakar Kolomi: Investigation.

Ibrahim Rabiu: Conceptualization and Writing – original draft.

Lawan Aliyu Ibrahim: Supervision, review and editing

Data availability

All original materials and data are available upon request to the guarantor: Ibrahim Rabiu.

Declarations

Ethics approval

Not applicable.

Funding

The authors declare that no funding was received for this work.

Competing interests

No potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

1. D.P. McManus, D.W. Dunne, M. Sacko, J. Utzinger, B.J. Vennervald, X.N. Zhou, Schistosomiasis, Nat. Rev. Dis. Primers 4 (1) (2018 Aug 9) 13, https://doi.org/10.1038/s41572-018-0013-8 (PMID: 30093684).
2. Oyeyemi OT, de Jesus Jeremias W, Grenfell RFQ. Schistosomiasis in Nigeria: Gleaning from the past to improve current efforts towards control. *One Health*. 2020;11:100183. doi:10.1016/j.onehlt.2020.100183
3. Randrianasolo BS, Jourdan PM, Ravoniarimbinina P, et al. Gynecological manifestations, histopathological findings, and schistosoma-specific polymerase chain reaction results among women with Schistosoma haematobium infection: a cross-sectional study in Madagascar. *J Infect Dis*. 2015;212(2):275-284. doi:10.1093/infdis/jiv035
4. Kjetland EF, Leutscher PD, Ndhlovu PD. A review of female genital schistosomiasis. *Trends Parasitol*. 2012;28(2):58-65. doi:10.1016/j.pt.2011.10.008
5. Helling-Giese G, Sjaastad A, Poggensee G, et al. Female genital schistosomiasis (FGS): relationship between gynecological and histopathological findings. *Acta Trop*. 1996;62(4):257-267. doi:10.1016/s0001-706x(96)00027-7
6. Christinet V, Lazdins-Helds JK, Stothard JR, Reinhard-Rupp J. Female genital schistosomiasis (FGS): from case reports to a call for concerted action against this neglected gynaecological disease. *Int J Parasitol*. 2016;46(7):395-404. doi:10.1016/j.ijpara.2016.02.006
7. Attili VR, Hira SK, Dube MK. Schistosomal genital granulomas: a report of 10 cases. *Br J Vener Dis*. 1983;59(4):269-272. doi:10.1136/sti.59.4.269
8. Wright ED, Chiphangwi J, Hutt MS. Schistosomiasis of the female genital tract. A histopathological study of 176 cases from Malawi. *Trans R Soc Trop Med Hyg*. 1982;76(6):822-829. doi:10.1016/0035-9203(82)90118-3
9. Swai B, Poggensee G, Mtweve S, Krantz I. Female genital schistosomiasis as an evidence of a neglected cause for reproductive ill-health: a retrospective histopathological study from Tanzania. *BMC Infect Dis*. 2006;6:134. Published 2006 Aug 23. doi:10.1186/1471-2334-6-134
10. Mullany K, Minneci M, Monjazeb R, C Coiado O. Overview of ectopic pregnancy diagnosis, management, and innovation. *Womens Health (Lond)*. 2023;19:17455057231160349. doi:10.1177/17455057231160349
11. Christie JD, Crouse D, Kelada AS, Anis-Ishak E, Smith JH, Kamel IA. Patterns of Schistosoma haematobium egg distribution in the human lower urinary tract. III. Cancerous lower urinary tracts. *Am J Trop Med Hyg*. 1986;35(4):759-764. doi:10.4269/ajtmh.1986.35.759

12. Gebremedhin DM, Teka H, Tsehaye KF. Female Genital Schistosomiasis as a Cause of Tubal Ectopic Pregnancy and Recurrent Pregnancy Loss: A Case Report. *Case Rep Pathol*. 2025;2025:7652671. Published 2025 Mar 10. doi:10.1155/crip/7652671
13. Ucama JMS, Smith L, Pires J, et al. Schistosomiasis and ruptured ectopic pregnancy: A case report. *Womens Health (Lond)*. 2025;21:17455057251387469. doi:10.1177/17455057251387469
14. World Health Organization. WHO Guideline on Control and Elimination of Human Schistosomiasis. Geneva: WHO; 2022.
15. Microorganisms Editorial Office. Schistosomiasis in pregnancy: immunopathogenesis and reproductive outcomes. Microorganisms. 2024;12(3):458.

Publisher's Note