



Case Report

## **Pelvic Tubal Schistosomiasis in a 30 Year Old Woman Presenting as Ectopic Pregnancy: A Case Report**

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Received: 26/02/2014

Revised: 27/03/2014

Accepted: 27/03/2014

### **ABSTRACT**

Schistosomiasis (Bilharzia) is one of the most important parasitic infections in the tropics affecting over 200 million people annually. It is an important trematode, fluke in which the adult worms are found in the veins, i.e schistosoma haematobium is found in the vesical plexus, schistosoma mansoni in the inferior mesenteric veins and schistosoma japonicum in the superior mesenteric veins.

Here is a case of Schistosomiasis in a 30 year old woman who presented at 12 weeks gestation with bleeding per vagina and abdominal pain for 1 month duration. Emergency laparotomy revealed a secular swelling at the fimbrial end of the fallopian tube measuring 5X4X2cm. Microscopic examination revealed variously sized schistosoma ova surrounded by chronic granulomatous inflammation.

Gynaecologist and General Practitioners working in the endemic areas of the tropics should consider genital schistosomiasis as a possible cause of acute gynaecological problems seen there.

**Keywords:** Fallopian tube, Schistosomiasis, Ectopic Pregnancy.

### **INTRODUCTION**

Schistosomiasis remains one of the most important parasitic infection in the tropics, the most widespread and important trematode, a blood fluke in which the body of the male is folded in a gynaecophoric canal in which the female is carried. It is endemic in Africa, South East Asia and the Middle East.

Schistosomiasis can affect the female genital organs and is a recognized cause of female infertility in these organs.

Tubal schistosomiasis was first described in 1925 by Gibson. <sup>(1)</sup> It affects over 250 million people worldwide. There are three major species affecting humans, Schistosoma mansoni, schistosoma haematobium, schistosoma japonicum. Specific species of snail acts as intermediate

host. The genus *Bulinus* is the intermediate host for *Schistosoma haematobium*, genus *Biomphalaria* for *Schistosoma mansoni* and *Onchomelania* for *Japonicum*.

Acute infection is asymptomatic presenting with non-specific influenza-like illness but continuous infection may cause granulomatous inflammation and fibrosis in the affected organ.

Infection of the pelvic organs can present as acute or chronic pelvic inflammatory disease. (2) Fallopian tube schistosomiasis as a direct cause of ectopic pregnancy is uncommon. (3,4)

Pathogenesis is hinged on the infectious larvae which penetrate the intact human skin and the schistosomes migrate into the peripheral vasculature, transverse the lungs and settle in the portal or pelvic venous system where they develop into adult male and female.

The female schistosome produces hundreds of eggs around which granulomas and fibrosis are formed. Acute schistosomiasis is dominated by TH-1 and INF-gamma stimulates macrophages to produce TNF, IL-1 and IL-6. Chronic schistosomiasis is associated with dominant TH-2 which produces IL-4, IL-5, IL-13. These cytokines are responsible for the formation of granulomas around the ova and also fibrosis by stimulating the synthesis of collagen. (5)

## CASE REPORT

A 30 year old para<sup>2+0</sup> whose last child birth was 7 years ago, she presented at 12 weeks gestation with complaints of bleeding per vaginal and lower abdominal pain. The bleeding was not associated with blood clots. There was no history of haematuria or bleeding elsewhere. She was seen two weeks prior to presentation at a mission hospital and had a manual vacuum aspiration done for incomplete miscarriage with momentary cessation of vaginal

bleeding. Her previous deliveries were by caesarean section. The patient was married and resident in a rural setting.

On examination, she was a young lady, afebrile (36.9<sup>0</sup>c), not pale, not dyspnoeic, no pedal oedema. Her pulse rate was 80 beats per minutes, regular and full volume. Her blood pressure was 110/80mmHg with only the first and second heart sounds auscultated.

The abdomen was full, with a midline subumbilical scar. There was right iliac fossa tenderness and the liver and spleen were not palpable. The kidneys were not ballotable.

An impression of suspected ectopic pregnancy to rule out acute appendicitis was made and pelvic ultrasonography done revealed an empty uterus with a well circumscribed cystic mass in the pouch of Douglas lying more to the right measuring 4.9x6.1cm. She was counselled and prepared for an emergency laparotomy. Her packed cell volume was 37%, urine pregnancy test was negative and her blood group was O rhesus D positive.

She was counselled and prepared for emergency laparotomy with the following intra operative findings: mild adhesions in the pelvic cavity. A haemorrhagic serosal swelling at the fimbrial end of the right fallopian tube measuring 5cm was noted. There was no haemoperitoneum. A right total salpingectomy was done and the excised fallopian tube was sent for histopathological analysis. The patient had an uneventful postoperative course and was discharged home 7 days later.

A dark brown distorted mass measuring 4.3X4.0X2.5cm was received at the Histopathology Department. Serial cut sections showed a dark-brown haemorrhagic surface. Histological examination showed variously sized calcified schistosome ova surrounded by granulomatous inflammation with fibrosis in a background of extensive

haemorrhagic stroma with intense inflammatory infiltrates comprising of mostly eosinophils, lymphocytes and plasma cells (Figure. 1 and 2).

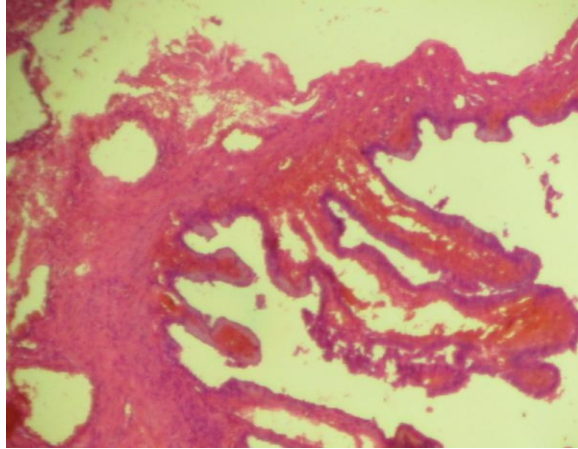


Figure 1: Histology of normal fallopian tube with the mucosa thrown into folded projections coated by a ciliated columnar epithelium.

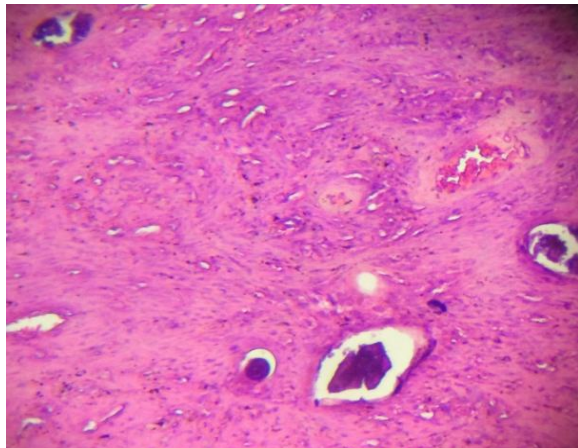


Figure 2: Histologic section showing variously sized calcified schistosoma ova within the fallopian tube with chronic granulomatous reaction, fibrosis and intense inflammatory reaction. (H and E stain X10).

## DISCUSSION

Schistosomiasis is a parasitic infection affecting over 250 million people worldwide. <sup>(5)</sup>

Female genital schistosomiasis was first described in an Egyptian woman more than a century ago. <sup>(6)</sup> According to autopsy and histopathological examination, the incidence of female genital schistosomiasis

in the upper reproductive tract ranges from 2-83% <sup>(7)</sup> and 35-75% in the lower reproductive tract. <sup>(8,9)</sup> One study conducted over a 12 year period showed the distribution of genital schistosomiasis as 21% ovary, 16% fallopian tube, 42% uterine cervix, 21% vagina and clitoris. <sup>(10)</sup>

Tubal schistosomiasis is a relatively common cause of granulomatous salpingitis worldwide. <sup>(11)</sup> It is rare in this country but it has been reported in endemic areas as possible cause of acute pelvic infection, ectopic pregnancy and tubal infertility. <sup>(4)</sup> Appropriate treatment is known to alter the clinical course. <sup>(12)</sup>

Manifestations of schistosomal tubal disease spans from the spectrum of mild reaction to severe fibrotic granulomatous reaction which may impair tubal motility and patency, thus predisposing to ectopic pregnancy and infertility. <sup>(13)</sup>

Furthermore, severe perisalpingitis and peritubal adhesions usually result from fallopian tube ischaemia due to ova deposition in the terminal veins of the tube. <sup>(13,14)</sup>

Urine and stool microscopies are the most commonly used method for the diagnosis of schistosoma. <sup>(15,16)</sup>

However, female genital schistosomiasis poses diagnostic dilemma as most patients are either asymptomatic or do not excrete any ova in their urine or stool. <sup>(17)</sup>

Eosinophilia, abnormal liver or renal function test are nonspecific for schistosomiasis and enzyme-linked immunosorbent assays (ELISA) cannot distinguish between active and passive infections. <sup>(16)</sup> As observed in this case, a detailed history and histopathological evaluation of specimen may be the only practical option in the diagnosis.

## CONCLUSION

Gynaecologist and General Practitioners working in the endemic areas of the tropics should consider genital schistosomiasis as a possible cause of acute gynaecological problems seen there.

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How to cite this article: Ngbea JA, Swende TZ, Ashuku AY et. al. Pelvic tubal schistosomiasis in a 30 year old woman presenting as ectopic pregnancy: a case report. Int J Health Sci Res. 2014;4(4):254-258.

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