

Schistosome eggs in Fallopian tubes: A surprising discovery

Hettiarachchi.N¹, Boban.D²
Department of Obstetrics and Gynaecology, Logan Hospital, Queensland, Australia

Background

Certain species of the trematode genus *Schistosoma* are known to infect human hosts. *S.Haematobium*, *S.Japonicum* and *S.Mansoni* are the most common causes of schistosomiasis. Eggs are excreted in faeces and urine, after which hatched larvae invade fresh water snails (intermediate hosts) to complete a portion of their life cycle.

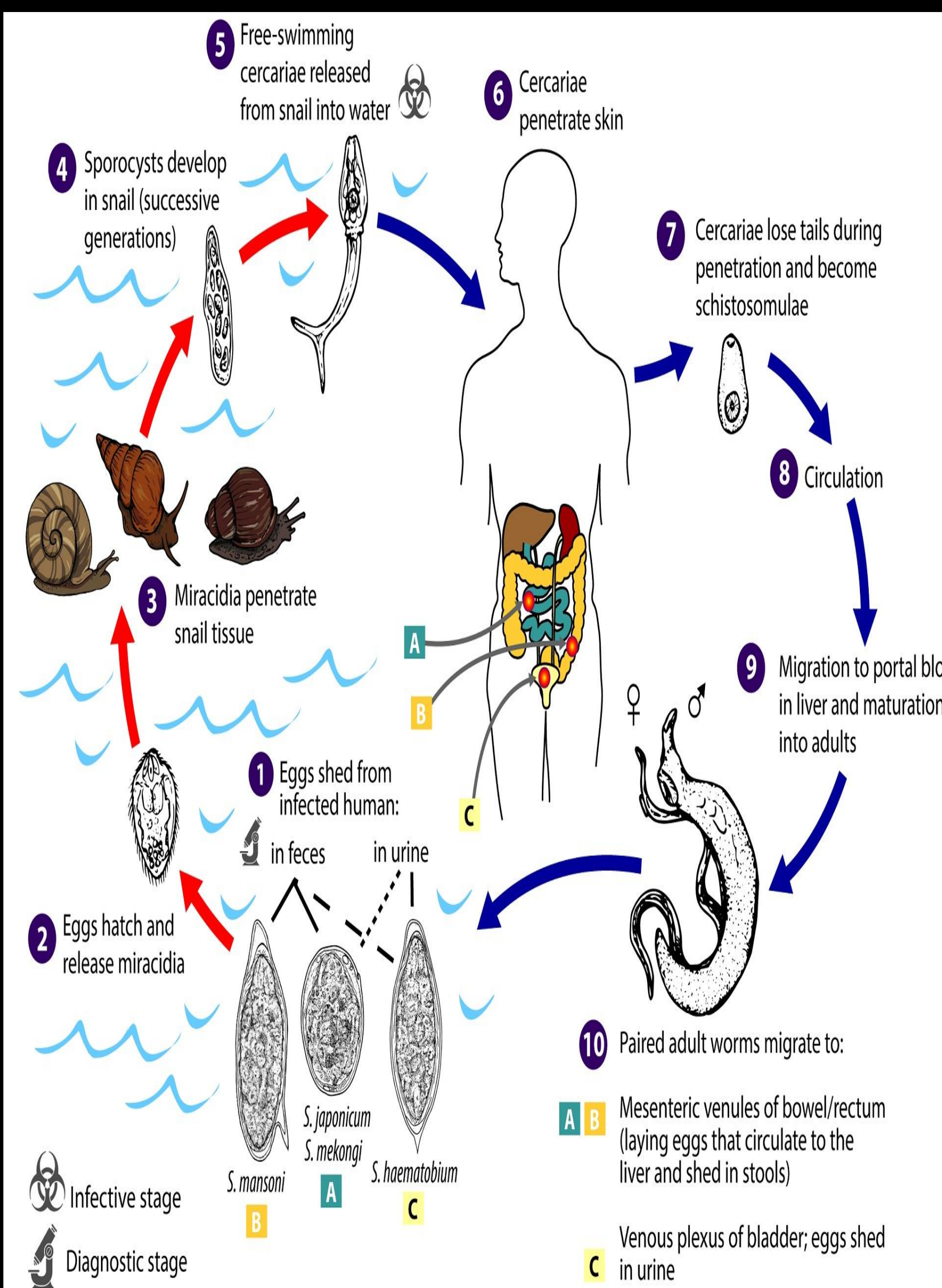


Image 1: CDC – Schistosoma life cycle

Free-swimming *Cercariae* burrow into exposed human skin and mature within the liver. Fully grown worms reproduce in the mesenteric and vesicular venous systems.

While a vast majority remain asymptomatic, presentations can vary from localised maculopapular rashes to fibrosis of affected organs (ex: liver, spleen), embolic egg granulomas of the central nervous system and squamous cell carcinoma¹.

Female Genital Schistosomiasis (FGS) is a little known variant often affecting women of Southern and Sub-Saharan Africa, the Middle East and the Western Pacific¹.

The following case discusses the incidental diagnosis of FGS in an Australian woman.

Case

Mrs X*, a 39 year-old mother of four and immigrant from Zimbabwe, presented to the Gynaecology clinic seeking female sterilisation. She had used the combined contraceptive pill, a subcutaneous implant and copper intrauterine contraceptive device without success.

The patient exhibited **no symptoms** of concern.

Past medical history

- Poorly controlled essential hypertension
- No previous surgeries

Past gynaecological history

- G4P4, 4 x spontaneous vaginal deliveries (term)
- No previous sexually transmitted infections
- Cervical screening up to date

An uncomplicated laparoscopic bilateral salpingectomy was performed. The operation notes did however, mention unusually thickened tubes with overlying fatty deposits. Routine microscopy of the Fallopian tubes subsequently discovered **calcified Schistosome eggs within the transections**.

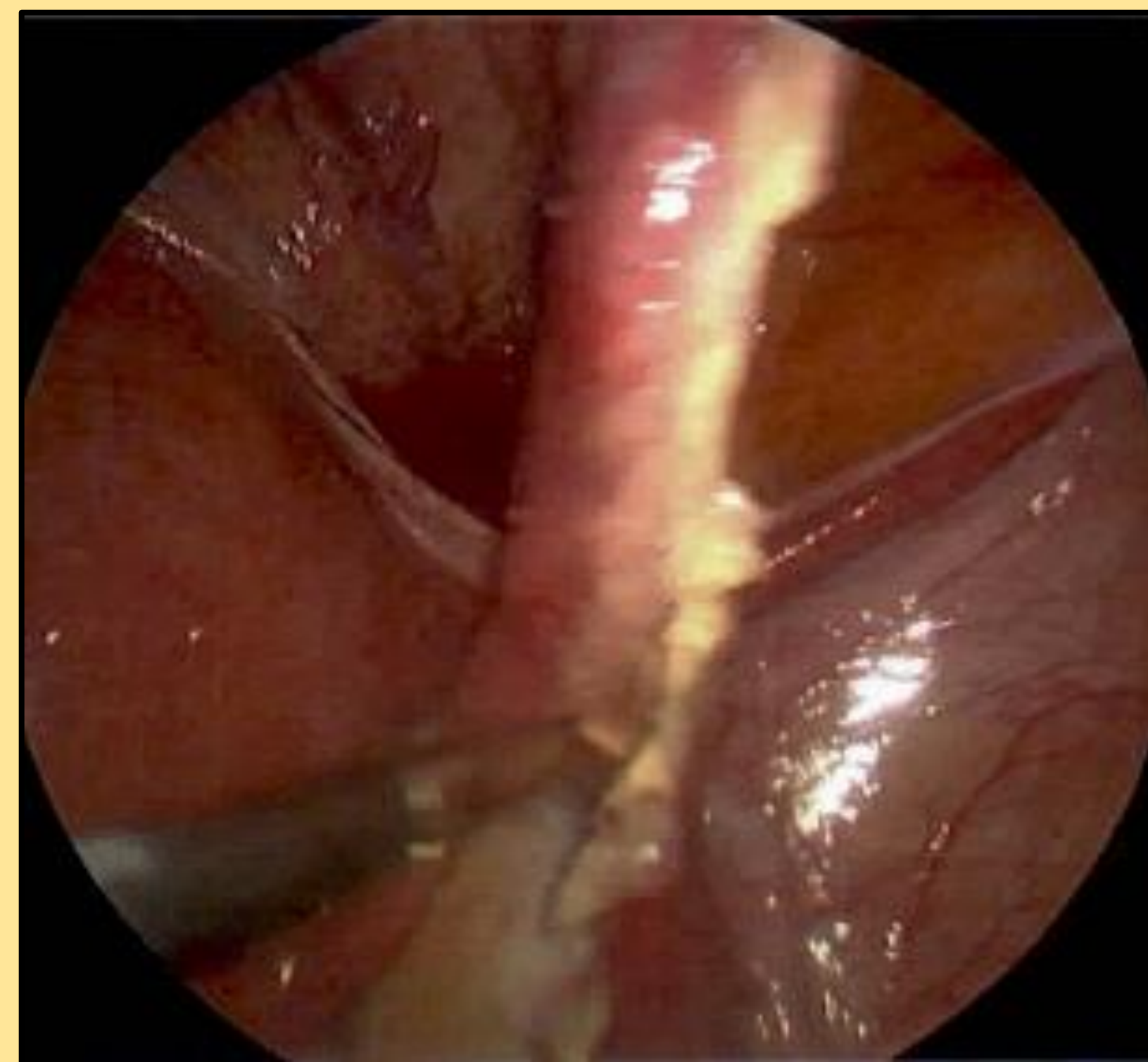


Photo 1: Intra-operative clinical photograph showing removal of thickened Fallopian tube

This was followed up by urine and stool microscopy, neither of which revealed any eggs. The patient confirmed exposure to unsanitary sources of water in early life.

Mrs X* - identifying details removed for confidentiality purposes

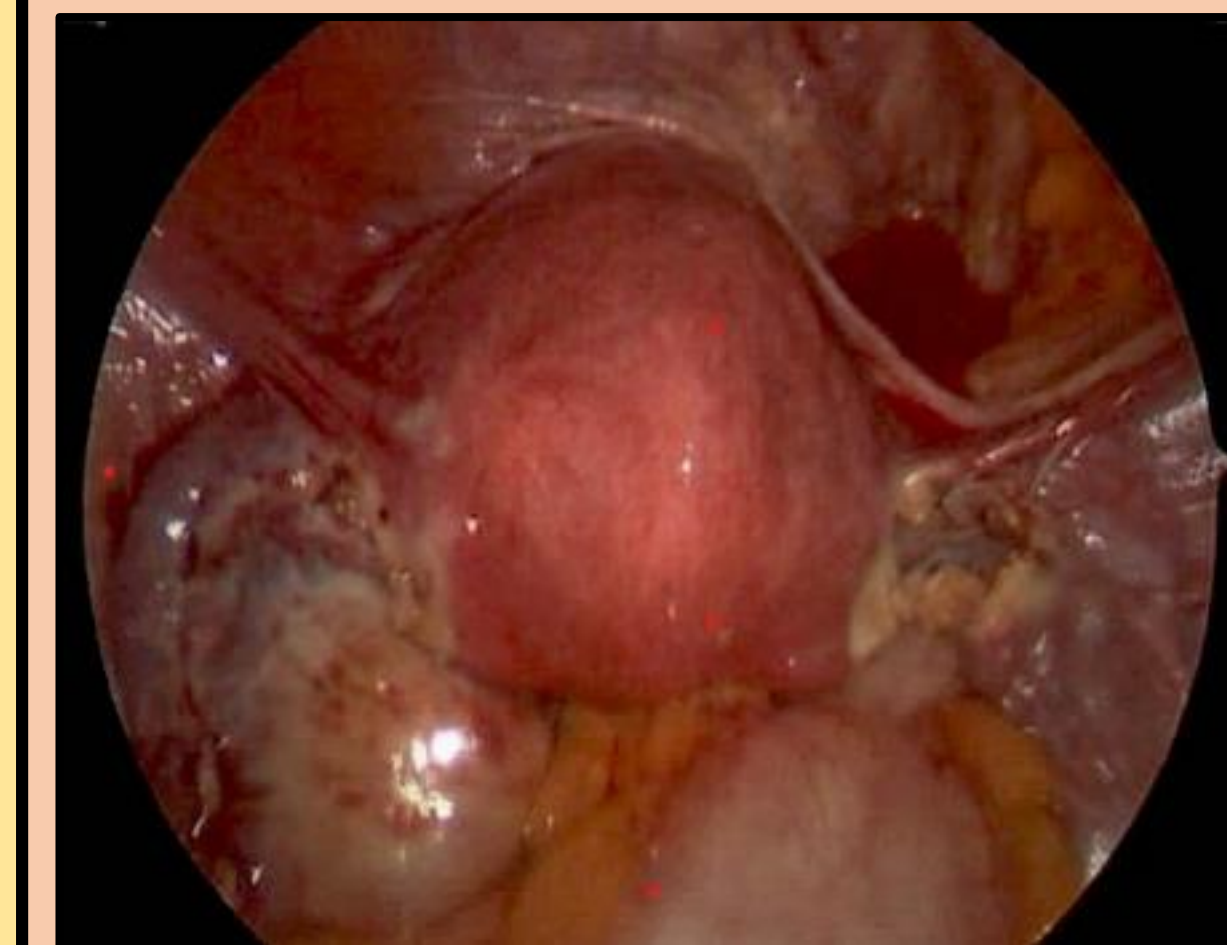


Photo 2: Clinical photograph of pelvis post salpingectomy

Discussion

Schistosoma haematobium is the primary cause of **FGS**, because this particular species has an affinity for the vesicular and pelvic venous plexuses. It invades the uterus, Fallopian tubes and ovaries through the urinary tract to form granulomatous deposits. Heightened pelvic blood flow in pregnancy is thought to contribute to this process.

FGS increases the risk of **vulval lesions, miscarriage, ectopic pregnancy and infertility**². A chronic pro-inflammatory state affecting the cervix and Fallopian tubes could promote all of the above³. Some studies suggest a relationship between schistosomiasis and **susceptibility to other STIs** such as HIV and HPV⁴. This may mean an increased likelihood of developing **cervical cancers**² (although this is yet to be proven).

Infection in pregnancy itself has been strongly associated with anaemia⁵. The causative mechanisms are believed to be chronic blood loss, haemolysis and cytokines produced by the inflammatory response decreasing bioavailability of iron³. While **anaemia** itself can result in **low birth weight and pre-term labour**, high levels of endotoxins can lead to placental inflammation which in turn brings about similar adverse perinatal outcomes³.

Conclusions

- ✓ Impact of FGS and Schistosomiasis in pregnancy on disease burden is heavily underrated
- ✓ Lack of awareness (even in regions where schistosomiasis is prevalent) surrounding FGS, its transmission and effects on women's health is profound
- ✓ There is a need for better education on FGS in the developed world to fulfill the requirements of an increasingly diverse patient population
- ✓ Standardised guidelines on the identification of risk factors, manifestations of disease, and basic management of women suffering from FGS are required

References

1. [cdc.gov/DPDx. CDC – Schistosomiasis. {online}](https://www.cdc.gov/dpdx/schistosomiasis/index.html)
Available at: <https://www.cdc.gov/dpdx/schistosomiasis/index.html> {Accessed 13 February 2022}
2. Nour, N. Schistosomiasis: Health Effects on Women. *Reviews in Obstetrics and Gynaecology*. 2010;3:28-32
3. Bengu MD, Dorsamy V, Moodley J. Schistosomiasis infections in South African pregnant women: A review. *S Afr J Infect Dis*. 2020;35(1):171
4. Galappaththi-Arachchige HN, Zulu SG, Kleppa E, et al. Reproductive health problems in rural South African young women: risk behavior and risk factors. *Reprod Health*. 2018;15:138
5. Friedman JF, Mital P, Kanzaria HK, et al. Schistosomiasis and pregnancy. *Trends Parasitol*. 2007; 23:159-164