

NTDs and their co-morbidities: **Bridge to Female Genital Schistosomiasis**

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Urogenital Schistosomiasis

- ❑ Genital schistosomiasis (GS) is caused by schistosome eggs trapped in genital tissues forming granuloma around the eggs.
- ❑ FGS is one of the most common gynaecological conditions of women in sub-Saharan Africa
- ❑ In *S. haematobium* endemic areas, it may in up to 75% of positive case
- ❑ *S. mansoni* and *S. japonicum* are also involved but to a lesser extent.
- ❑ It causes inflammation and lesions in genital tract consisting of masses or polyps, thickening of the bladder wall, dilatations of the ureters and hydronephrosis.
- ❑ Vulva, vagina, cervix, uterine body, fallopian tubes and ovaries are usually affected.
- ❑ Prostate gland and seminal vessels are most affected in males
- ❑ It is under-diagnosed, under estimated, hence number affected, incidence, prevalence and distribution are unknown.
- ❑ Up to 56 million women may be affected , 90% of whom are in Sub Saharan Africa where 90% of global schistosomiasis occurs.

Complications

Causes lower genital tract damage leading to misery, social stigma, depression, pain and generally decreases quality of life.

Females

- Genital itching
- Vaginal discharge usually with blood.
- Pain during sex
- inflammation of the cervix,
- Tubal obstruction and infertility
- Abortion or ectopic pregnancy,
- Involuntary urination eg when coughing
- Genital ulcers,
- Tumors or swellings in vulva sometimes resembling cervical cancer

Males

- Painful erection and ejaculation
- Blood in semen (haemospermia)
- Glandular tumours near the prostate (adenocarcinoma)
- Dysuria (pain or difficulty urinating)

Both sex:

- Blood in urine (haematuria)
- Infertility,
- calcified bladder
- cancer of the bladder

FGS gets little attention, but MGS is severely neglected (no diagnostic pocket atlas).

Urogenital schistosomiasis and HIV

- ❑ A causal association between GS and HIV has been described.
- ❑ Epithelial breaches in GS can facilitate HIV viral entry and binding to immune cells present in altered epithelium.
- ❑ Chronic schistosomiasis promotes a Th2-type immune environment in the host which may increase susceptibility to HIV up to 3-4 fold increase.
- ❑ HIV map in Africa to an extent overlap with schistosomiasis distribution especially in Malawi, Mozambique, Tanzania and Zimbabwe.
- ❑ The greatest HIV prevalence in the past decades occurred in Uganda, Kenya, Malawi and Central African Republic perhaps related to their high schistosomiasis endemicity
- ❑ In Uganda, the highest HIV prevalence is in fishing villages
- ❑ **WHO** recommends increased collaboration between programs controlling HIV and NTDs.

Diagnosis

- ❑ Clinical and laboratory diagnosis of FGS remains a bottleneck.
- ❑ It relies on microscopic identification of schistosome eggs in urine or stool as gold standard.
- ❑ Light infections are often missed and ova are not always concurrently present.
- ❑ Lesions associated with GS may mimic a host of other infections
 - cancers (of the vulva, vagina, cervix, endometrium),
 - other sexually transmitted diseases.
 - urogenital tuberculosis.
- ❑ Hence it is difficult to be affirmative regarding causal relationship.
- ❑ [“WHO” Female Genital Schistosomiasis Pocket Atlas](#) now exists.
- ❑ Sandy patches appearing as single or in clusters or as homogenous, yellow areas, or rubbery papules in Genital tract are characteristic of FGS
 - The Atlas misses inner lesions on fallopian tube and uterus.
 - Requires use of specialized equipment e.g colposcope and highly trained personnel, a challenge in poor countries.

Treatment and Prevention

- ❑ No validated therapeutic options
- ❑ Regular treatment with praziquantel is vital at an early age to prevent progression into damage
- ❑ However, PZQ treatment has no effect on established grainy lesions.
- ❑ Elimination of adult worms prevents further egg deposition in the tissues and thus development of new lesions.
- ❑ WHO recommends regular treatment with PZQ to entire communities and to routine facility based treatment.
- ❑ Clinical management requires well trained physicians and specialized equipment and infrastructure which are not readily available in most endemic settings.

Health Education, Sensitization and training

- ❑ There is still widespread lack of awareness of genital schistosomiasis

- ❑ Most health-care professionals are unaware of genital manifestations hence they are:
 - either ignored or underestimated
 - Or misdiagnosed leading to ineffective therapy and sometimes to irreversible operations such as ovariectomy, hysterectomy.

- ❑ knowledge about importance of treatment is also scanty in endemic communities

- ❑ Hence, sensitization of health workers and raising awareness in endemic communities are vital.