Female Genital Schistosomiasis Lesion Resolution Post-Treatment with Praziquantel in Zambian Adults

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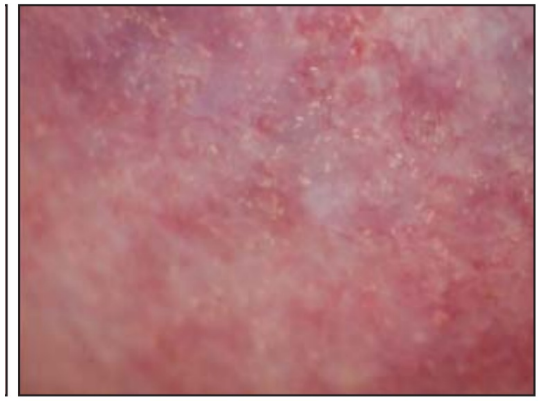
Background

- Schistosoma haematobium infection causes urogenital schistosomiasis
- Female genital schistosomiasis (FGS) is the gynaecological presentation of *Schistosoma haematobium* infection, due to egg deposition in the female genital tract
- FGS Affects 56 million women and girls in Africa & linked to infertility, pregnancy complications, lost productivity, stigma, and HIV risk.
- Praziquantel is recommended for treatment of all species of schistosomes
- Uncertainty whether praziquantel Rx. Of women with FGS helps to resolve FGS lesions
- From 2020 to 2021, we evaluated the frequency and factors associated with post-treatment FGS lesion resolution among adult women.

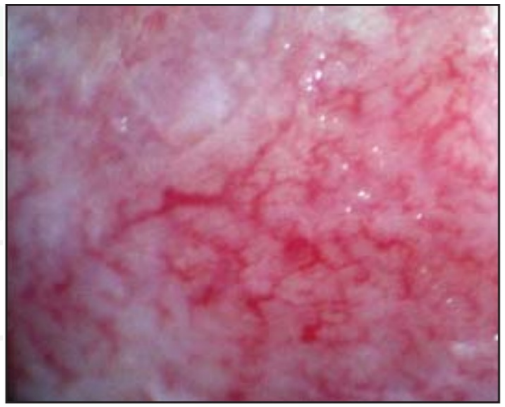
Normal Cervix

Four Distinct mucosal FGS indicators

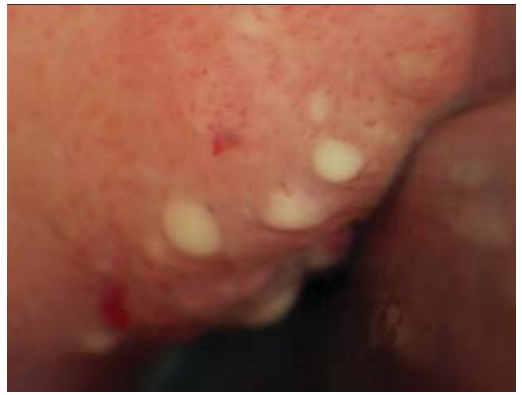


Grainy sandy patches

Homogenous Yellow Sandy Patches



Abnormal Blood Vessels



Rubbery Papules

WHO FGS Pocket Atlas for clinical health care

Methodology: Baseline & Follow-Up Participant Selection

- **Baseline:**
- 497 HIV- women at-risk for HIV/STIs in Lusaka and Ndola
- Criteria: HIV- Female sex workers or single mothers aged ≥18 years
- Recruitment Period: March 2020 to December 2021
- **Follow-Up:**
- Women diagnosed with FGS at baseline
- Inclusion: Those who received directly observed praziquantel treatment for FGS and followed up for 6-12 months
- Sample Size: 43 women (18 from Lusaka, 25 from Ndola)

Clinical & Laboratory procedures

- Colposcopy and Genital Examination: Collected vaginal swabs, assessed for inflammation, bleeding, discharge during colposcopy.
- Urine Tests: Hematuria and S. haematobium eggs detection.
- STI Testing: Gonorrhea, Chlamydia, HPV, Trichomoniasis, Candida, BV, Syphilis, and HIV.

Data Collection and Analysis

- Tools: Surveys (SurveyCTO), Colposcopy Images (REVIEWED INDEPENDENTLY BY TWO EXPERTS & diagnosis made based on the standard FGS case definition (i.e., presence of any indicator: grainy sandy patches, homogenous yellow sandy patches, abnormal blood vessels, rubbery papules), Laboratory Tests.
- Data Management and ANALYSIS: MS Access for storage and SAS version 9.4 for analysis
- Statistical Tests: Chi-square, Fisher's exact, Wilcoxon two –sample tests as appropriate, McNemar's test for statistical paired data.

Results

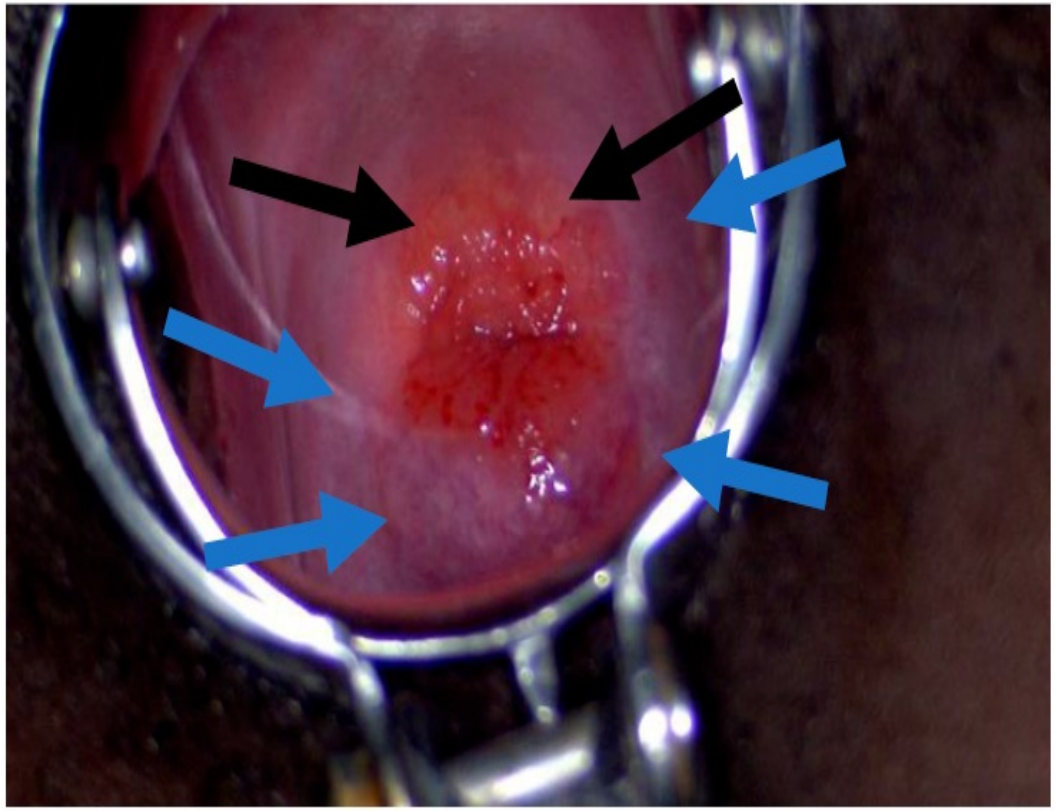
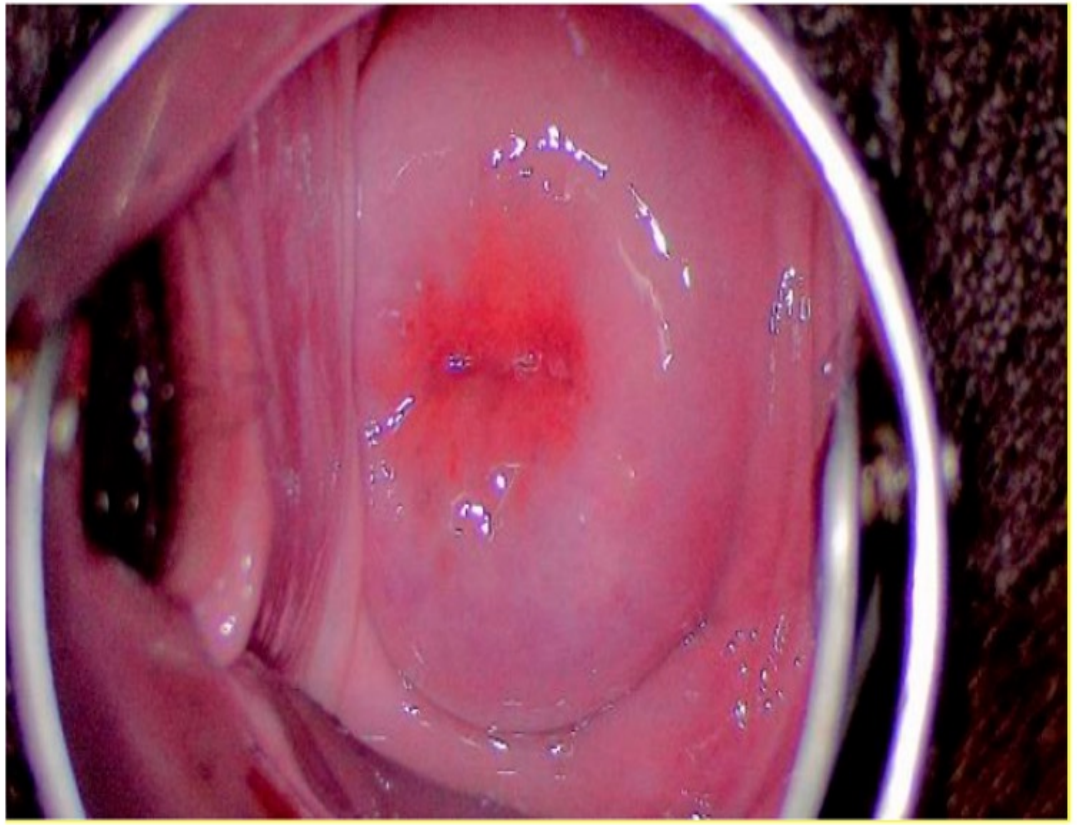
- Age: Median **29** years (IQR: 6 years)
- Lesion characteristics **(n=43)**
  - Abnormal blood vessels **33(77%)**
  - Homogenous yellow sandy patches **26(60%)**
  - Grainy sandy patches **21(49%)**
  - Rubbery papules **2(5%)**
- Treatment-Follow-Up Interval: Median 9 months (IQR: 5 months)
- Agreement in Diagnosis: 81% (Cohen's k = 0.6)

Lesion Resolution:

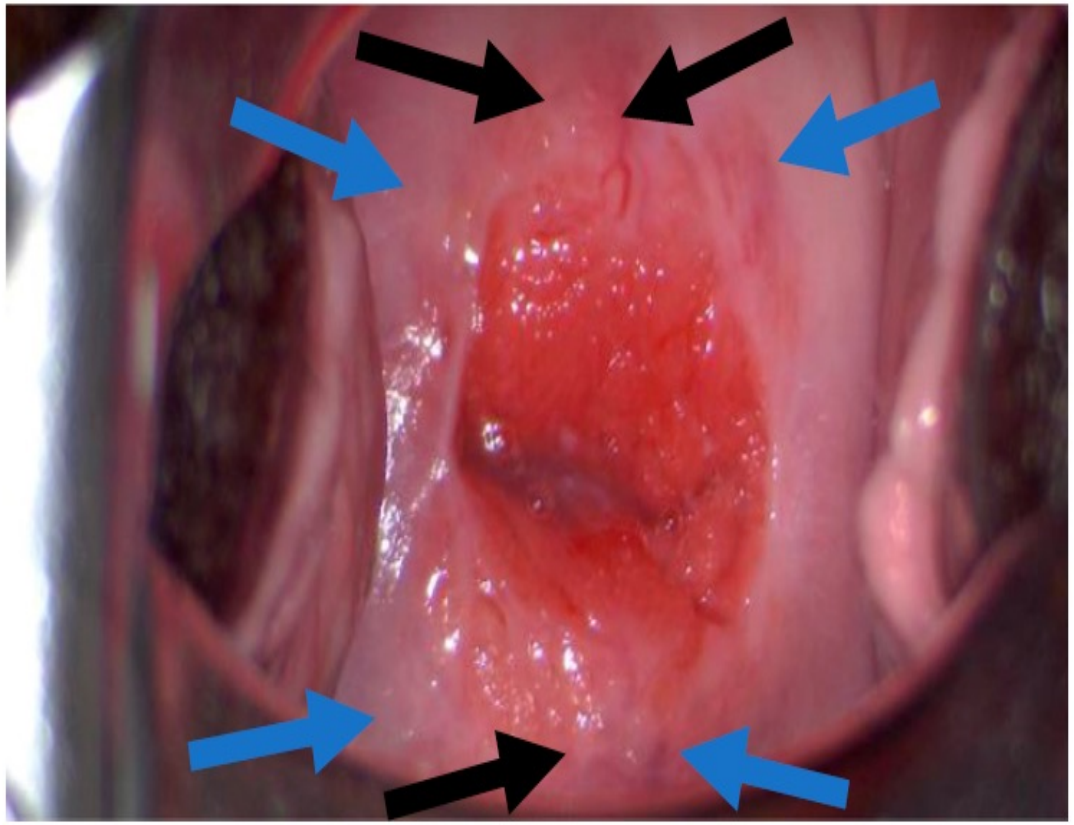
- - 60% (26/43) showed a decrease in lesion severity.
- - 23% (10/43) experienced complete lesion resolution.

Factors associated with Lesion Resolution:

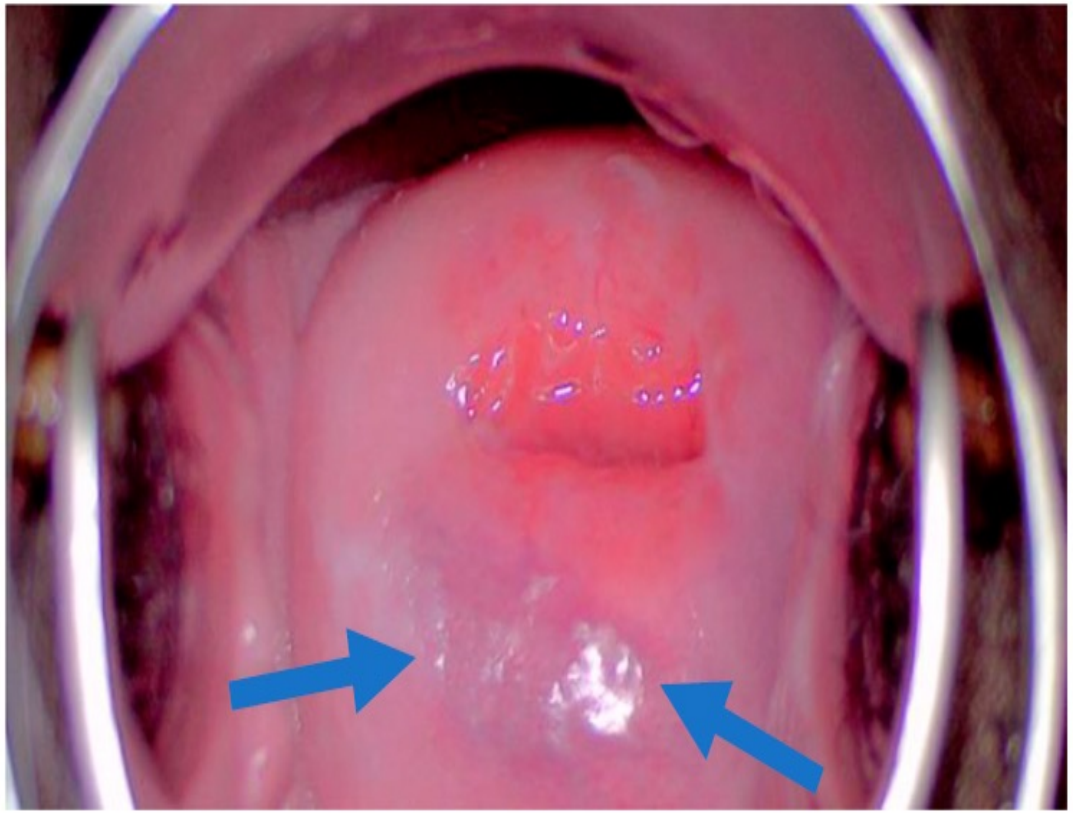
- - Less severe baseline disease was associated with better outcomes.
- - No association with baseline STI status.

Pre-treatment	Post-treatment
A Lesion resolution	
	
FGS indicators: homogenous yellow sandy patches (black arrows) and abnormal blood vessels (blue arrows)	FGS indicators: None Image taken 9.5 months post-treatment

B Decreased lesion severity



FGS indicators: grainy sandy patches (black arrows) and abnormal blood vessels (blue arrows)



FGS indicators: abnormal blood vessels (blue arrows)
Image taken 7 months post-treatment

Discussion & Conclusion

- After praziquantel treatment, 26 of 43 (60%) women who had FGS at baseline experienced decreases in lesion severity, and 10 of 43 (23%) experienced complete FGS resolution.
- Less severe baseline disease associated with FGS lesion resolution post-treatment.
- Findings in tandem with *Richter et al.'s* findings of partially reversible lower reproductive tract abnormalities were at least partially reversible 2-9 weeks post treatment
- By contrast, *Kjetland et al.* evaluated FGS lesion resolution in rural Zimbabwe 3 and 12 months after initial treatment with praziquantel and did not notice any lesion resolution or reduction
- Implications: Praziquantel shows effectiveness, but reinfection risk and treatment optimization need further exploration - Larger studies are needed to validate findings and explore integration into existing health services

THANK YOU

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