

Title of the Poster:

Existence of Male Genital Schistosomiasis (MGS) in fishermen along Southern shores of Lake Malawi.

Abstract

Introduction

Male genital schistosomiasis (MGS) is a specific manifestation of schistosomiasis associated with snail-borne trematode *Schistosoma* eggs and related pathologies in genital tract of men inhabiting or visiting endemic areas especially of Sub-Saharan Africa. The first recognised MGS report was made by Madden in 1911, followed by several case reports and research studies in subsequent years. However, the epidemiology, diagnostic testing and case management of MGS are not well described owing to limited research and diminishing focus in endemic countries over several decades.

There is less awareness on the clinicopathological consequences of MGS in seminal vesicles, vas deferens and prostate due to the emphasis on the urinary system pathology of urogenital schistosomiasis (UGS) by *Schistosoma haematobium*. Furthermore, the presence of immune cells and mediators indicates an associated genital pathology that may increase the susceptibility to Human immunodeficiency virus (HIV) infection and transmission among infected males and females in schistosomiasis-endemic regions.

Longitudinal cohort research studies were conducted in Malawi to investigate the current burden of MGS among fishermen living along Lake Malawi shores in Mangochi and assess the possible increased risk of HIV transmission through seminal viral shedding.

Methods

Fishermen aged 18+ years from fishing villages along the Lake Malawi shores were recruited after providing informed written consent. Individual questionnaires were administered to assess their knowledge, attitudes and practices on MGS and HIV.

Thereafter, participants submitted urine in a container at the nearby health facility and

semen into a clear, sealable plastic bag, following 2 days of coital abstinence. In addition, transabdominal ultrasonography of their genital organs were conducted and at the end, Praziquantel therapy was provided to all participants, together with the follow-up date, one, three and six months post-therapy.

Results

A total of 386 fishermen, 320 without HIV and 56 with HIV and on Antiretroviral treatment (ART), aged 18 to 70 years (mean = 30.6 years), were recruited into the study and had questionnaire interviews. Preliminary results indicate that 31 participants (14.8%, n = 209) had *S. haematobium* eggs in urine at baseline, with mean egg count of 2.3 per 10ml and range from 0 to 137.8. Eight participants (3.8%) tested positive for circulating cathodic antigen (CCA) which is mainly indicative of hepato-intestinal *S. mansoni* infection. Eleven (12%, n = 92) had MGS, thus *S. haematobium* eggs in their semen (mean = 1 egg / ejaculate, range = 0 - 14 eggs / ejaculate). Out of 125 participants with transabdominal ultrasonography at baseline, 25 (20%) had abnormalities in the genital organs, displaying pathological consequences of MGS.

At 1-month follow-up, only 4 participants still had UGS and 2 were new infections, with reduced mean egg count of 1.4 per 10ml urine, and range of 0 to 29.6. None of the participants had eggs in their semen, suggesting clearance of MGS infection after therapy.

At 3-months follow-up, more participants had UGS (16.9%, n = 65), and MGS (8.2%, n = 61) supposedly due to reinfections. On 6 months follow-up, only four participants (6.5%, n = 62; mean = 0.03 eggs per 10ml) had UGS, while 3 participants had 1 *S. haematobium* egg in semen (5.6%, n = 51).

Conclusion

Male genital schistosomiasis is as prevalent as UGS in fishermen living and working in Lake Malawi. Interestingly, the current treatment is capable of clearing MGS similarly to UGS,

raising the need for availability and accessibility of praziquantel to all people in endemic areas, together with other disease control interventions.