Editorial

Gynecology & Reproductive Health

Impact of Infection Due To *Schistosoma haematobium* in Reproductive System

Grácio Maria A*

Instituto de Higiene e Medicina Tropical, Universidade Nova de Lisboa, Rua da Junqueira 100, 1349-008 Lisboa, Portugal.

***Correspondence:**
Grácio Maria A, Instituto de Higiene e Medicina Tropical, Universidade Nova de Lisboa, Rua da Junqueira 100, 1349-008 Lisboa, Portugal, E-mail: mameliahelm@ihmt.unl.pt.

Received: 22 April 2018; **Accepted**: 16 May 2018

Citation: Grácio Maria A. Impact of Infection Due To *Schistosoma Haematobium* in Reproductive System. Gynecol Reprod Health. 2018; 2(3): 1-5.

It is reasonable to think that infection due to *Schistosoma haematobium* is occurring in humans from their beginning. Effectively, in the first documents written by humans 5,000 years ago - papyries - ancient Egyptians recorded the occurrence of haematuria (blood in the urine), which is known to be associated with *S. haematobium* infection) then denominated Aaa [1]. In 1852, Theodor Bilharz, a German physician working in Cairo recovered from of vessels of a soldier an adult fluke, and published its description as *Distomium haematobium* [2]. In 1856, in homage to T. BIlharz, the German physician Heinrich Meckel von Hemsbach introduced a new: *Bilharzia haematobium*, and the term bilharzia or bilharziasis for the disease [3]. In 1858, the German zoologist David Friedrich Weinland established a new genus- *Schistosoma*. In 1954, *Schistosoma* was validated by the International Commission of Zoological Nomenclature (ICZN), and it was then also validated under the name *Schistosoma haematobium* [4]. So, the disease that it causes is designated as schistosomiasis.

S. haematobium is responsible for urogenital schistosomiasis recorded in Africa, the Middle East, and in Corsica (France) [5]. As to Europe: i) *S. haematobium* had been recorded in Portugal, with several foci occurring in the Algarve - southern Portugal [6,7]; ii) more recently, the record of a new locality for intermediate hosts of *S. haematobium* underlines the risk of expansion of this parasite in the European continent [8,9].

Schistosoma haematobium has a complex life cycle, with one part occurring within snails (intermediate hosts) and another in the humans (definitive hosts). The infective stage for humans - cercaria larvae - that are liberated from the snails, penetrate the skin of anyone that is in contact with water where there are cercariae, and are then denominated schistosomulae. These migrate and develop into mature adult *Schistosoma* in around the vesical plexus, and occasionally in the rectal region, the mesenteric portal system and ectopic sites [10]. In the reproductive system, *S. haematobium* ova have been found in the female and male genital tract [11-13]. Genital schistosomiasis has been associated, in females, with sterility [14-16], and vagino-vesical fistula [17], and in man with infertility and scrotal swellings [18-21]. In [22], we can see extensive information on infections due to *S. haematobium* and its impact on reproductive system of men, including its association with prostate cancer. The authors indicate that genital manifestations in men included funiculitis, epididymitis, granulomata of the seminal vesicles testicular masses, and prostate lesions which may cause haematospermia and infertility.

In a general context some authors [23] have make conservative estimates of the overall prevalence of the disease and of the 250 million people infected with schistosomiasis, approximately two-thirds of whom (ca 170 million) being infected by the urogenital form caused by *S. haematobium* (the form with the highest correlation with cases of infection Female genital schistosomiasis (FGS). Among these 170 million, half are women (ca 85 million) and at least one- third of these women may suffer from FGS. Of them, probably 20 million are girls or women, most of them lacking suitable medical attention [24], and the authors [23] consider that this lack of validated epidemiological information is the major impediment towards bringing FGS to the forefront of strategic discussion not only in the context of schistosomiasis disease control. Perhaps even more importantly, in the context of addressing women's health in the broadest sense including mental health, sexually transmissible diseases, compromising reproductive/maternal health [23]. Little attention is provided for FGS because the recognition and treatment of schistosomiasis genital tract lesions requires well trained physicians and specialized infrastructures which are not readily available in

most schistosomiasis endemic settings. The scarcity of integrated approaches to address FGC calls for more concerted actions in its detection, treatment and prevention otherwise it will remain a neglected gynecological disease.

In conclusion we can say that human suffering (physical and psychological), the economic impact on health services with treating patients and the loss of the work force where patients live are strong motives for urogenital schistosomiasis to be included: (i) in the group of priority diseases to be controlled; (ii) in the training of people in the health service where schistosomiasis caused by *S. haematobium* occurs.

References

1. Contes G, David AR. The epidemiology of Bilharzia in Ancient Egypt: 5000 years of schistosomiasis. Parasitology Today. 1996; 22: 253-255.
2. Bilharz T. Fernere Mittheilungen uber Distoma haematobium. Zeitschrift furwissenschaftliche Zoologie. 1852; 4: 454-456.
3. Mutapi F. Getting a GRIPP on everyday schistosomiasis: experience from Zimbabwe. Parasitology. 2016; 1-9.
4. Hemming F. Opinions and declarations rendered by the International Commission on Zoological Nomenclature. International Trust for Zoological Nomenclature. 1954; 4: 177-200.
5. WHO 2017. Fact sheet updated October 2017.
6. Azevedo JF de, Silva JB de, Coito AM, et al. O foco português de schistosomiase. Anais Inst Med trop Lisboa. 1948; 5: 222-275.
7. Grácio MA. Distribution and habitats do six species of freshwater pulmonate snails in Algarve, southern Portugal. Malacological Review. 1983; 16: 27-23.
8. Grácio MA, Richter J. Risk of expansion of *S. haematobium* in Europe. XIX SOCEPA- II Encuentro International de Parasitólogos de España, Francia. Italia, Portugal - Vitória, Gasteiz. 2015; 23-25.
9. Dana EO, Garcia-de-Lomss J, Juan Baños JL, et al. New location for *Bulinus truncatus* (Audouin, 1827. Gastropoda: Planorbidae) in Iberian Peninsula. Graelllsia. 2015; 71: e030.
10. Eddington GM, Nwabuelo I, Junaid TA. The pathology of schistosomiasis in Ibadan Nigeria with special reference to the appendix, brain, pancreas and genital organs. Trans, R Soc trop Med Hyg. 1975; 69: 153-156.
11. Gelfand M, Ross CMD, Blair DM, et al. Schistosomiasis of the male pelvic organs. Severity of infection as determined by digestion of tissues and histologic methods in 300 cadavers, Am trop Med Hyg. 1970; 19: 779-784.
12. Gelfand M, Ross CMD, Blair DM, Weber MC. Distribution and extent of schistosomiasis in female pelvic organs with special references to the genital tract as determined by autopsy. Am trop Med Hyg. 1971; 20: 846-849.
13. Khalaf J, Shokeir A, Shalaby M. Urologic complications of genitourinary Schistosomiasis. World J Urol. 2012; 30: 31-38.
14. Kjetland EF, Ndhlown PD, Kurewa EN, et al. Prevention of genicologic contact bleeding and genital sandy practics by child- blood anti-schidtosomal treatment. Am J trop Med Hyg. 2008; 79: 79-83.
15. Schanz A, Richter J, Breyer I, et al. Genital schistosomiasis as a case of female sterility and acute abdomen. Fertility and Sterility. 2010; 93: 2075-2077.
16. Figueiredo J, Richter J, Belo S, et al. Urogenital schistosomiasis presenting genital and urinary tract lesions and abdominal discomfort in a sterile Angolan woman. J Genit Syst Disor. 2013; 2: 1-4.
17. Dennis N, Wilkinson J, Robboy S, et al. Schistosomiasis and Vesicovaginal Fistula. African Journal of Reproductive Health. 2009; 13: 137-140.
18. Leutscher P, Ramarokoto CÊ, Reimert C, et al. Community-based study of genital schistosomiasis in men from Madagascar. Lancet. 2000; 355: 117-118.
19. Richer J. Evolution of schistosomiasis-induced pathology after therapy and interruption of exposure to schistosomes: a review of ultrasonographic studies. Acta Trop. 2000; 77: 111-131.
20. Richter J, Lux I Reinecke P, Müller- Mattheis V. Of flukes and fistulae. Lancet. 2008; 371: 1308.
21. Kjetland EF, Leutscher PD, Ndhlovu PD. A review of female genital schistosomiasis. Trends Parasitol. 2012; l28: 58-65.
22. Figueiredo JC, Richter J, Borja N, et al. Prostate adenocarcinoma associated with prostatic infection due to *Schistosoma haematobium*. Case report and systematic review. Parasitol Rev. 2014; 114: 351-358.
23. Christinet V, Lazedins-Helds JK, Russel Stothard J, et al. Female genital schistosomiasis (FGS): from cases reports to a call for concerted action against this neglected gynecological disease. J for Parasitol. 2016; 46: 395-404.
24. Hotez P, Withitham M. Helminth Infection: a new global women's health agenda. Obstet Gynecol. 2014; 123: 155-160.