

Schistosomahaematobium and Urogenital Disorders



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Introduction

Schistosomiasis, also known as bilharziasis, is one of the most serious of tropical diseases that occurs in the world. In fact, schistosomiasis has been reported from 76 countries, being:

- I. Intestinal schistosomiasis is caused by
 - a. *Schistosoma mansoni* recorded in Africa, the Middle East, the Caribbean, Brazil, Venezuela, and Suriname
 - b. *S. japonicum* in China, Indonesia and the Philippines
 - c. *S. mekongi* in several districts of Cambodia and the Lao people's Democratic Republic
 - d. *S. guineensis* and related *S. intercalatum* recorded in rain forest of Central Africa
- II. Urogenital schistosomiasis caused by *S. haematobium* recorded in Africa, the Middle East, Corsica (France) [1].

Concerning Europe, we are in the presence of a re-introduction of this disease, since it had been recorded in Portugal, where several foci had occurred in Algarve-Southern Portugal [2,3] Still in Europe, the record of new localization of intermediate hosts of *S. haematobium* can be a risk of expansion of this parasite in European continent [4,5]. *S. haematobium* is a blood fluke and part of its development occurs within freshwater snails (intermediate hosts) and the disease is contracted when cercariae larvae (infectant stage for humans) are liberated from the snails and penetrate the skin of anyone that is in contact with infected water (bath, domestic activities, fishing, etc.). The cercariae, after penetration are known as schistosomulae. These migrate and develop into mature adult schistosoma worms, their habitat being inside blood vessels. Then, the adults inhabit the veins of the vesical plexus, although some parasites may live in the portal vein and its mesenteric branches. Oviposition normally occurs in the small terminal venules of the vesical plexus, but occasionally in the rectal venules, the mesenteric portal system and ectopic sites. Ectopic migration of the *S. haematobium* adults and Oviposition can occur anywhere in the body, resulting in a variety of lesions [6].

Concerning reproductive organs, the female genital tract is frequently found to harbor *S. haematobium* ova [7], and ova have been found at autopsy in the vas deferents, prostate, scrotal skin pampiniforme plexus and epididymis [8,9]. Urogenital schistosomiasis presenting genital and urinary tract lesions has been referred by several authors, as well as responsible for female sterility and it can affect up to 50% of women with *S. haematobium* infection in endemic areas. Even in the absence of urinary ova excretion, 23-41% of women have been found to suffer from genital of schistosomiasis [10]. Urogenital schistosomiasis associated with cases of female sterility have been observed [11,12]. The histopathology of 176 cases of schistosomiasis reported from Malawi during the period 1976-1980 has showed schistosomiasis infection throughout the genital tract with 60% of cases including the cervix. Schistosomiasis was a significant cause of gynecological morbidity, particularly when infection involved the lower genital tract, however in a proportion of cases ova were found coincidentally in other lesions or normal tissues, and were not apparently causally linked with symptoms [13].

Another aspect deserving attention is the association between urogenital schistosomiasis and cancer observed in men. Effectively, cases of prostate carcinoma associated with schistosomiasis have been published worldwide [14]. For that if can to have a general idea of the potential risk of urogenital disorders in the world, we also make here a short information on urogenital schistosomiasis in European travelers and migrants. Then, according to TropNet Surveillance Data [15], in an analysis of 14 years- from 1997 to 2010- on urogenital schistosomiasis due *S. haematobium* in European travelers and migrants, the species information was available in 898/1,465 (61%) of the cases (young with a median age of 29). Urogenital schistosomiasis due to *S. haematobium* was diagnosed in 22% of cases (318/1,465). Among these 63.8% (203/318) were found in non-European, 4.7% (15/318) among expatriates, and 31.5% (100/318) among Europeans. The authors have concluded, "That schistosomiasis remains a relevant infection in travelers and migrants in Europe. Most infections in Europeans

occur in travelers visiting a small number of countries in west and east Africa. These travelers should be counseled intensively on the risk of schistosomiasis infection.”

To avoid the serious consequences of urogenital schistosomiasis prevention and early treatment should be an important health care target in endemic areas [16]. Also schistosomiasis needs to be considered as a differential diagnosis of female infertility and sterility [11]. Finally, we are in agreement with [17] in the following “considering that female genital schistosomiasis is a significant risk for ectopic pregnancy and infertility in schistosomiasis endemic areas a detailed histology is necessary and parasitic evaluation of patients presenting with ectopic pregnancy or sub fertility in areas where the disease is endemic, and with [18] “the scarcity of integrated approaches to address female genital schistosomiasis from case reports to a call for concerted actions against this neglected gynecological disease”.

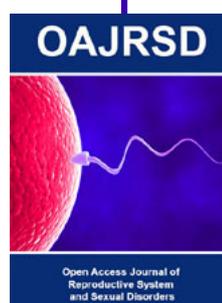
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