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# The Distribution of Bilharzia Ova in the Male Genital Tract

BY

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It was decided to study the distribution of bilharzia ova in the male genital tract from autopsy material, which included the prostate, seminal vesicle, spermatic cord, testis, epididymis, tunica vaginalis and scrotal skin. Such a study appeared to be justified, as many patients are seen in endemic bilharzial regions with various diseases of these organs. For instance, hydrocele, orchitis, epididymitis, lymph-scrotum and prostatitis are frequently encountered, and the etiology is by no means always obvious. It is tempting to attribute an affection of these organs to bilharziasis, but it should be remembered that bilharziasis may be present coincidentally with another disease and is thus often not the causative factor at all in the disorders just mentioned.

## METHODS AND PROCEDURE

Consecutive autopsies were performed on 50 adult males between the ages of about 16 and 50 who died in the Salisbury Native Hospital. At autopsy first bladder and then rectal snips were taken, each snip measuring about  $\frac{1}{2}$  cm. square. The whole of the prostate and bladder were carefully removed so that recognition of the different organs was easy, and small portions were removed from the prostate gland, the seminal vesicles and the vas deferens (about 1 in. away from the vas and 1 in. in length).

Next the scrotal sac was opened and a small portion of the testis, head of the epididymis, pampiniform plexus, tunica vaginalis and finally a small portion of scrotal skin were taken. Each piece of tissue, immediately it was removed, was dropped in a labelled bottle and then left separately in 10 per cent. KOH in at least 20 times its own volume for 24 hours, and after digestion the fluid was centrifuged. The deposit was resuspended in water and centrifuged again. The digest was examined microscopically with a  $\frac{2}{3}$  in. objective.

**Results.**—Out of the 50 subjects—

12 were free of bilharzial ova (24 per cent.).  
38 showed bilharzial ova (76 per cent.);  
of these—

27 had *S. haematobium* alone;  
10 had *S. mansoni* and *S. haematobium*; and  
1 had *S. mansoni* alone.

Ova of *S. haematobium* were found in the bladder in 36 subjects, and in them the frequency with which they were present in the organs tested was as follows:—

Vas deferens	.....	.....	.....	9
Prostate	.....	.....	.....	9
Tunica vaginalis	.....	.....	.....	2
Scrotal skin	.....	.....	.....	1
Epididymis	.....	.....	.....	1
Pampiniform plexus	.....	.....	.....	1
Testis	.....	.....	.....	0
Rectum	.....	.....	.....	26

In the nine subjects with *S. mansoni* infestation of the rectum, sites of ovideposition were:—

Seminal vesicles	.....	.....	.....	2
Testis	.....	.....	.....	1
Vas deferens	.....	.....	.....	0
Prostate	.....	.....	.....	0
Tunica vaginalis	.....	.....	.....	0
Epididymis	.....	.....	.....	0
Pampiniform plexus	.....	.....	.....	0
Scrotal skin	.....	.....	.....	0
Bladder	.....	.....	.....	1

## DISCUSSION

There are a few references to involvement of these organs by bilharzial disease. For instance, Cerqua (Saverio) quoted *Tropical Diseases Bulletin* (Vol. 27, 1930), records a Cairo patient with a swelling of the left prostatic lobe in whom excision of part of the wall revealed a cystic swelling containing ova of *S. haematobium* between its fibrous layers. Makar (1937) in Egypt refers to lesions of the prostatic urethra which may produce haemospermia. Armbrust (quoted T.D.B., Vol. 48, p. 168) described a male aged 45 with an enlarged scrotum for some 20 years. It was considered to be a hydrocele and a biopsy was performed. The tunica albuginea showed many ova and a few were also found in the seminal tubules. He records as well a male aged 42 who died, and at autopsy ova were found in the seminal vesicles, which were fibrosed. From Southern Rhodesia, Gelfand and Davis (1940) described bilharzial orchitis in a European child aged about eight years. The patient developed a swelling of a

testis which was removed, as the diagnosis was that of seminoma.

The results of this study are interesting. There is a far greater liability for ova of *S. haematobium* to be deposited in the genital organs than those of *S. mansoni*. In nine cases of *S. mansoni* (in the rectum) the seminal vesicles had ova in two cases and the testis in one, but the other parts, including the prostate, were unaffected. In 36 cases of *S. haematobium* the prostate had ova in nine, the seminal vesicles in 29 and vas deferens in nine. The reason for this probably lies in the anatomical distribution and anastomotic connection of the venous plexuses. When we came to study the organs in the scrotal sac we found that ova were seldom found, their distribution being as follows: testis 0, epididymis 1, tunica vaginalis 2, pampiniform plexus 0, and scrotal skin 1. It thus appears that the farther these organs are removed from the venous plexuses of the bladder, the less likely it is to find ova.

This study is of clinical significance, for it shows that whereas the seminal vesicles, the prostate and that part of the vas deferens close to its entry into the seminal vesicles are often the site of ovideposition in urinary bilharziasis, the testis, epididymis, pampiniform plexuses and

tunica vaginalis are rarely so affected. Whilst a bilharzial orchitis, funiculitis and epididymitis have been described and recorded, in clinical practice the probability of these organs being found diseased is most unlikely.

#### SUMMARY

1. The distribution of bilharzial ova in the male genital tract in 50 consecutive autopsies has been studied.

2. The ova are far more likely to be deposited in the organs (seminal vesicles, prostate and the intra-abdominal portion of the vas deferens) closely situated to the bladder than in those (like the testis, epididymis and tunica vaginalis) far removed from the venous plexuses of the bladder.

3. A bilharzial orchitis, funiculitis, epididymitis or hydrocele are probably uncommonly encountered in clinical practice in contradistinction to a bilharzial prostatitis or vesiculitis.

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