

The Urological Aspects of Bilharziasis in Rhodesia

BY

R. M. HONEY, M.B., F.R.C.S. (Ed.)

Consulting Urologist, Salisbury Hospitals Group;

AND

MICHAEL GELFAND, C.B.E., M.D., F.R.C.P.

*Consulting Physician, European and African Hospitals,
Salisbury.*

PART III

SYMPTOMATOLOGY

The clinical picture of bilharziasis depends on the stage reached by the disease and can be studied better in the European than in the African, for the history elicited from the former is often more reliable and clearer. In the early and more acute phases of the disease, when ova are being extruded from the bladder wall, the bladder complaints are similar. In Africans haematuria is often mentioned, the bleeding being characteristically noticed at the end of micturition, but this is not always so, for the stream may be discoloured throughout its length. A number complain of hypogastric discomfort, others of a pain in the penis on micturition, and others yet again of frequency.

In a recent study in Mtoko by Morley-Smith and Gelfand (1958) it was noticed that the chief complaints in the group of African children were typical of this form of the disease, although in them it is not easy to determine or assess the degree of tiredness so often mentioned by the European infested with bilharziasis. One of the more striking symptoms complained of by Europeans is tiredness, although it is true to say that at least half of the subjects do not remark upon any change in their energy.

At this stage of the disease one can expect to discover ova in specimens of the urine. If ova are present in the sample it will also show albumen, usually as a trace or cloud, and on microscopy red blood cells. The detection of ova without red cells or albumen must be exceptional. The reverse does not follow; a specimen may contain red cells and albumen, but no ova. It is also not infrequent in the acute phases of the illness for a specimen to be entirely clear of abnormal constituents, but a later specimen to harbour ova, blood or albumen.

It would appear that physical exertion will provoke the excretion of ova in increased numbers (Bennie, 1949), and it is our impression

that even a fever due to diverse conditions such as pneumonia, meningitis, typhoid or malaria appears to excite the extrusion of ova in greater numbers. On the other hand, the administration of almost any drug, be it sulphonamides, arsenic or pentamidine, may cause the worms temporarily to cease producing ova, and this may in fact simulate a cure, but usually after two or more weeks ova again begin to be excreted in the urine. It is also possible that in those with a light infestation, and therefore few adult worms, non-specific drug therapy may affect a cure.

The diagnosis in the acute phase of the disease is usually easy, provided that specimens of urine are collected, and it is rarely necessary at this stage to resort to cystoscopy or even rectal biopsy. There are exceptions where the ova escape infrequently into the urine and so make recognition of the disease difficult.

After several years we come to the later stage of the disease, now characterised by the local fibrotic effects produced by the ova in the urinary system and less by their general or toxic effects, and thus we can expect more striking features.

There are several differences at this later stage between the European and African sufferers; indeed, it would be more correct to refer to it as "European" and "African" bilharziasis. The differences lie mainly in the more extensive form assumed by the disease in the African, who is exposed more often and so is likely to be infested more continually. In him we find on cystoscopy all stages of the disease present at one time, namely, ova in the urine, fresh tubercles, sandy patches and bilharziomata and fibrosis of the bladder and ureters. In the European who presents in the late fibrotic stage the disease has usually been discovered and treated some years previously and no re-infestation has taken place. In the African, too, infection of the bladder mucosa with *Escherichia coli* and other secondary invading organisms is not uncommon, although an acute superimposed cystitis is rarely encountered. We have been struck by the relative infrequency of acute cystitis in the African wards, despite the high frequency of urinary bilharziasis.

When the bladder is affected by fibrosis, increased frequency is the main symptom and was mentioned by 56 per cent. Africans in our series. Less frequently the complaint is one of vague hypogastric and perineal pain. In the European these symptoms are mostly mild, and bladder contraction consequent upon fibrosis is rarely

seen; in only 13 (4.3 per cent.) was a mild nocturia (rising once at night) complained of.

Because of the reduced capacity of the viscus, the subject cannot retain the usual volume of urine and so finds himself voiding it more frequently throughout both the working and sleeping hours. This nocturia is so common that many take little note of it and the patient will rarely complain unless directly questioned. In advanced examples of this complication the patient may pass urine every half hour during the day and dribble most of the night. When this is accompanied by pain, secondary infection has set in and the plight of the patient with a small fibrotic and secondarily infected bladder is distressing to witness. He has little rest by day or night and slowly passes over to the unconscious state or uraemia as a result of gross destruction of renal tissue and pyelonephritis.

As already described, the ureters on one or both sides are commonly involved in the fibrosis—more so in their lower portions; less often in the middle and upper thirds. Symptoms frequently follow, but it must be stressed that many Africans are seen who on radiological investigation have dilated, tortuous and stenosed ureters, but make no reference to pain on the affected side or to a urinary disturbance. Out of 67

African patients with ureteric involvement in the way of stenosis, dilatation or both, only 36 complained of any colic or dull pain in the iliac fossa or loins. The characteristic symptom of ureteric fibrosis is pain which is typically colicky and resembles that caused by a calculus, although in our experience the pain is not as severe as in some cases of calculus producing complete obstruction. Such colic or pain is not accompanied by a haematuria and there is no frequency of micturition unless there is disease of the bladder. The pain is mostly felt in the iliac fossa on the affected side, or more rarely in the loin behind, and radiates downwards and forwards towards the groin in the typical distribution associated with renal colic.

In many cases the pain is not severe or acute, but consists rather of a continual ache or discomfort in the side, and after several days it lessens and disappears, only to re-appear sooner or later.

The subject with either a stenosis or dilatation of the ureters may experience an attack of colic which, if severe, generally means that an obstruction is likely to be encountered. Table II describes the type of pain (colic or dull ache) in cases of stricture or dilatation.

Table II
SYMPTOMS ENCOUNTERED IN URETERIC DISEASE

	European: 300 Cases	African: 100 Cases
Colic alone in patients with stricture	39	8
Dull pain alone in patients with stricture	20	10
Colic and dull pain occurring in patients with stricture	40	8
Colic alone occurring in patients with dilatation without stricture	6	—
Dull pain alone occurring in patients with dilatation without stricture	22	10
Colic and dull pain occurring in patients with dilatation without stricture	5	—
Neither colic nor dull pain in patients with stricture	20	23
Neither colic nor dull pain in patients with dilatation without stricture	26	18
Colic alone in patients who have bilharziasis, but neither dilatation nor stricture	6	—
Dull pain alone in patients who have bilharziasis, but neither dilatation nor stricture	8	—
Colic and dull pain in patients who have bilharziasis, but neither dilatation nor stricture	3	—
	195 = 65 per cent.	= 77 per cent.

Whereas in stricture colic is frequently complained of, many mention a dull pain or both, while in a fair proportion neither symptom is experienced. Colic too may be experienced in the presence of dilatation only, although a dull pain is the more usual finding. Colic and dull pain too may occur without a stricture or dilatation being found in the ureter, when a spasm of the wall may be postulated. Our findings thus agree in the main with the statement of Kirkaldy Willis, who in 1946 said that renal colic is due to stenosis at the ureteric orifice or slightly above it.

Not uncommonly, both ureters are affected. Of those who had strictures, 27 Europeans (9 per cent.) and 13 Africans (13 per cent.) in our series were affected bilaterally. It is interesting to note, however, that symptoms may only be one-sided when both the ureters are affected. A further point of interest is that pain may be felt on the side of the less affected ureter as shown in the pyelogram.

VESICLES, PROSTATE, EPIDIDYMIS AND TESTES

Alves, Woods and Gelfand (1955) studied the distribution of the ova in the male genital tract in urinary bilharziasis at autopsy and showed 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, the testes, epididymis, pampiniform plexus and tunica vaginalis are rarely so affected. They concluded that whilst a bilharzial orchitis, funiculitis and epididymitis have been described in clinical practice, the probability of these organs being found diseased is most unlikely.

We have occasionally met haematospermia in the European who has a heavy bilharzial infestation of the bladder base, prostate and vesicles, but it is unusual for ova to be found in the seminal fluid. Such a patient may also

complain of a sharp perineal pain, worse after ejaculation. Nevertheless, in spite of the heavier infestation in the African, it is most unusual for an African to appear with haematospermia, nor have we heard of it on enquiry from any African medicine men.

The fact that the testes and epididymi seldom harbour ova, despite their presence in the bladder, vesicles and prostate, is most probably explained by the wide difference in blood supply. In order to assess how often testes, epididymi and cord were affected by urinary bilharziasis, we examined the scrotum carefully for any abnormal signs in numerous African males between the ages of 20 and 50. It may be assumed that most of them had suffered from urinary bilharziasis since childhood and thus one would have expected these structures to show signs were the ova often deposited there. Many Africans were seen with hard swellings of varying size and shape affecting the testes, epididymi and cords. Sometimes these masses reached enormous proportions, but often they were comparatively slight. Many were accompanied by hydrocele or by elephantiasis of a lower limb. They mostly came from the Shire Valley, Nyasaland, and parts of Northern Rhodesia, from regions endemic to filariasis (*W. bancrofti*). Sometimes these masses are attributed to bilharziasis when ova are discovered in the urine, but this error should not be made, as the swellings are coincidental. Urinary bilharziasis is endemic throughout tropical Africa and many a filarial subject also suffers from bilharziasis.

In order to determine the nature of these swellings we carried out biopsies in 22 cases, all of whom were passing ova in the urine. In none could we demonstrate ova in the tissues of the epididymi or testes. Our findings are thus at variance with the observations of Makar (1955) from Egypt.

(To be continued)