

## The Frequency and Bladder Calcification in a Sample of Boys at St. Mary's Mission, Salisbury

BY

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Within recent months certain well-planned projects have been undertaken in Africa to determine whether urinary schistosomiasis is serious and, if so, how often. Despite the fact that the disease has been said to be associated with serious effects, albeit these be present in a relatively small percentage of the population living in the endemic regions of Rhodesia, the belief has gained credence in other countries of tropical Africa that *S. haematobium* is of little clinical importance. It has been suggested even that the strain of the urinary parasite in these regions is a mild one as compared with that existing in Egypt and Rhodesia and that this hypothesis would explain such pathological differences. And yet it would seem difficult to postulate strain differences, for when one studies the literature one finds a number of publications from places like Kenya, Nigeria and Uganda, indicating that serious effects may develop in this disease as elsewhere.

We have stressed for long in Rhodesia that unless proper urological investigations are conducted, a true appreciation of the pathological effects of urinary schistosomiasis cannot be gauged accurately. The bladder and lower ureters are attacked largely, and therefore it follows that it must be ultimately the urologist who would be in the best position to assess the exact lesions produced. It is not easy at an ordinary clinical examination to assess the effects of the urinary parasite. It is particularly difficult to recognise the constitutional symptoms of the disease in the African, as more than likely the individual may harbour other parasitic infections and more than likely be living on an inadequate diet. In the circumstances it is difficult to attribute any debility or abdominal discomfort to the schistosome. In the European, however, the position is different, as he usually suffers from no other parasitic infection and his food intake is adequate. It does not follow that the African suffers from these same constitutional symptoms as the European, since the state of immunity in the two peoples is probably entirely different. The African's state of sensitivity or immunity is more than likely to differ from that of the

European who shows, when infected, more of the features of the hypersensitivity reaction, viz., the Katayama syndrome and Kabure itch, whereas these did not appear to be encountered in the African. The African has been exposed for centuries to the infection and therefore his immunological responses are probably different.

On the other hand, the local effects of the disease are well known in the African and these are confined for practical purposes to the bladder and lower ureters. In order to demonstrate these an intravenous pyelogram, cystoscopy and retrograde pyelography studies should be made. This is the best procedure to adopt, but in an endemic region this is not always an easy procedure to do, especially if there are large numbers to be examined. In these circumstances it might be possible to determine the degree of severity or intensity of the infection by examining the frequency with which a calcified bladder is seen on X-ray in a sample taken of the population exposed to the infection. It is not easy to quote a figure for such an index, as so far the figures vary greatly. Honey and Gelfand (1960) give a figure of 14 per cent. in those adults found to have chronic bilharziasis. In Egypt, Nabawy *et al.* (1961) reported a figure of no less than 29.6 per cent. in a series of 132 children between the ages of four to 14 years.

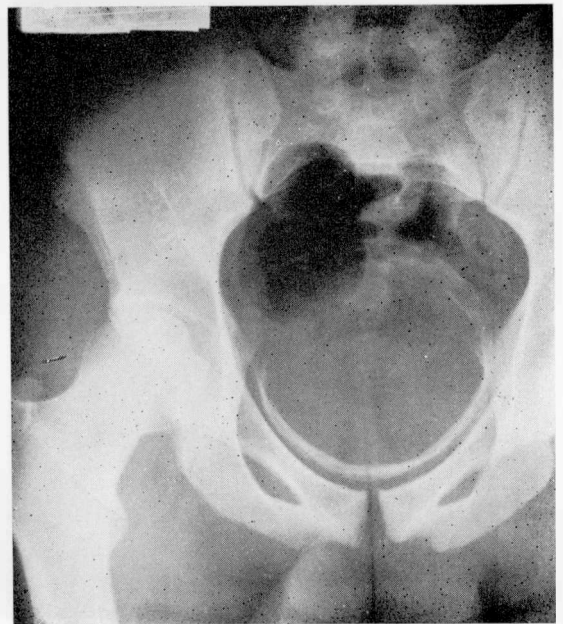


Fig. 1—Almost complete calcification of bladder of severe degree.

It might therefore be useful for various workers in Africa to determine the frequency with which this sign occurs in a population living in a particular endemic region. As the sign is found in children it might be useful to determine it in this age group. Forsyth and Bradley (1964) in Tanganyika have already shown a high percentage of cases, and Gilles in Western Nigeria has followed this up and his figure is about 20 per cent.

#### METHOD

It was decided to X-ray the bladder region of boys from St. Mary's Anglican mission school, which is about 14 miles from Salisbury. It has a piped water supply and water-borne sewerage, and the chance of contracting the disease at the school is relatively slight unless the boys go off during the term to one of the nearby streams or rivers. During their vacations many of them, on returning home, must expose themselves again to infection. However, this school has the great advantage in that the sample selected represented boys from all over Rhodesia and not from one particular endemic or heavily infested focus. When a place is chosen where the disease is found in abundance one can expect a different

figure for calcified bladder than in a region where the infection is slight. It was felt that by X-raying the boys at this school a much better all-round idea of the degree of severity might be obtained.

There were 103 boys between the ages of 10 and 18 who gave a history of urinary bilharziasis and were known to have had the disease in the past or were found to be still passing schistosome ova. They had received also various forms of treatment in the different places where it was recognised.

#### RESULTS

There were five boys (4.8 per cent.) who had calcified bladders. In one it was judged as being mild, in two moderate and in a further two as being marked. Their ages ranged from 15 to 18 years. In none of the X-rays taken was calcification of the ureter noted.

#### DISCUSSION

A figure of 4.8 per cent. in this sample is not small. No doubt if a sample had been taken in an endemic region the figure may have been higher. For instance, in a secondary school at Ibadan Professor H. Gilles conducted a similar survey, in which he found the incidence of calcified bladder to be over 20 per cent. in a group of boys and girls of similar age. This present study, however, may be a useful baseline by which to establish the incidence of calcified bladder in the general population of Rhodesia or Central Africa, taking into account that regions vary greatly in intensity. Clearly more samples must be taken from other centres before we can establish adequately an index of severity. More precise knowledge could be gained by a proper urological study being carried out in the different regions, but this procedure would be difficult to introduce for economic reasons largely.

In papers read at the recent International Conference of Pathology in London (June, 1964), Forsyth of Tanganyika (paper read by Dr. Jordan) and Gilles of Nigeria (paper read by Professor Edington), the incidence of calcified bladder was higher than in my series. This difference is probably due to the fact that their samples were selected from more highly endemic regions. Forsyth and Bradley (1964) found bladder calcification in some 12 per cent. of school children they tested.

#### SUMMARY

In a secondary school near to Salisbury, at which boys between the ages of 14 and 18 years attended from all parts of Rhodesia, bladder

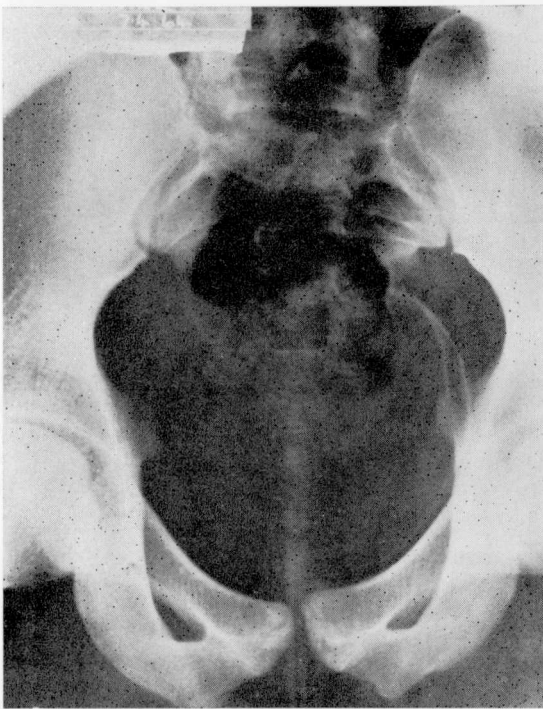


Fig. 2—A clear line of calcification in the left half of the bladder.

calcification was found in five out of 103 boys (4.8 per cent.), who either gave a history of urinary bilharziasis in the past or were passing ova of *S. haematobium* at the time.

## REFERENCES

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## Peculiarities in Dermatology

### LICHENIFICATION

#### AN EXTENSIVE CASE OF LICHEN SIMPLEX CHRONICUS OF VIDAL-BROCQ

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The photograph shows an Indian patient, B.H., aged 31 years, who consulted me on the 28th January, 1963, for a skin condition involving the whole of the neck and front of the chest. The condition commenced 12 years ago and



Fig. 1—Note the lichenification on neck.

incessant pruritus, rubbing and scratching had produced this picture of an enormous area of lichenified skin—the worst case I had seen in my dermatological practice.

## COMMENT

The term “lichenification” was coined by Brocq in 1891 and areas or plaques of localised lichenification were later called Lichen Simplex Chronicus by Vidal.

## AETIOLOGY

Pruritus, probably of central origin, is the cause of the cycle of rubbing, scratching, lichenification and itching. It is nearly always intermittent and the itching is usually more intense at night, and it may reach paroxysmal crises in which scratching produces severe traumatic damage to the skin.

Lichenification may be circumscribed, involving the mucous membrane of the anus, vulva or buccal mucous membrane (*Morsicatio buccarum* or cheek biting), or it may be diffuse or take the form of giant plaques or nodules affecting the arms or legs (*Lichen cornuus hypertrophicus* or *obtusus*).

On the occiput lichenification may appear, especially in women, as white, thick, coarse plaques (“fausse teigne amiantacee”), but I personally consider this condition an unusual form of psoriasis—constant rubbing and scratching producing the plaque, a Köbner phenomenon.

*Differential diagnosis* of lichenified skin must be made from lichen planus, seborrhoeic dermatitis, psoriasis, lichen amyloidosis, and secondary lichenification due to a pre-existing primary pruritic dermatosis such as dermatitis venenata.

## HISTOLOGY

Lichen simplex chronicus shows hyperkeratosis, parakeratosis and acanthosis and broadening of the papillae. In the dermis there is a chronic inflammatory infiltrate with the presence of a fair number of fibroblasts. The appearances may strongly resemble psoriasis.

## TREATMENT

I am treating this patient with success by using a fluocinolone acetonide cream 0.025% to be rubbed into the affected areas frequently. At night he wears polythene gloves and takes a 10 mg. tablet of Vallergan. I have injected some of the more thickened areas intralesionally with Depo-Medrol.