GENITAL TUBERCULOSIS IN THE MALE*

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I HAVE never been quite certain what line of treatment to adopt when a case of tuberculosis of the genital tract was being reviewed. Then in 1935 the following case came my way :—

H., a miner aged thirty-one, was quite well until May of that year when a swelling of the left testis appeared with a mass in the left lobe of the prostate and slight involvement of the right lobe. The vesicles seemed normal. The urine contained a trace of pus and a few tubercle bacilli. The urogram revealed no disease of either kidney. Cystoscopy showed a healthy mucous membrane of the bladder and normal ureteric orifices. Indigo-carmine injected intravenously appeared from each in four minutes. The urine from the left was normal, that from the right contained some pus cells and a few bacilli. A retrograde pyelogram revealed no cavity formation in this kidney.

He was treated for six months in a sanatorium to establish resistance. The urogram was repeated and showed a normal outline of both kidneys. The urine was now free from pus and bacilli and the lesions in the prostate were smaller; but as there had been no change in the size of the left testis, this was removed, the vas being divided at the internal ring. The epididymis was found to be completely destroyed and the body of the testis was also involved. So too was the lower part of the vas, but the upper two inches seemed quite healthy. The wound healed by first intention.

Sanatorium treatment was continued for another six months. He was free from symptoms and his health seemed perfect. Rectal examination showed that the lesion in the prostate had disappeared but both vesicles were now affected. The urine was examined on several occasions but only once contained pus cells and bacilli. The urogram was repeated and revealed dilatation of the right ureter and dilatation of the pelvis of the right kidney ; there was no cavity formation. Further investigation was advised; but the patient wished to be discharged as he was free from symptoms.

He was kept under observation for three years, during which time his general health remained good, he remained free from symptoms and

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carried on work as a miner. On two occasions only the urine contained pus and bacilli.

The course that this case ran surprised me. I was aware that some urologists maintain that, so far as the genito-urinary tract is concerned, primary tuberculosis of the genital tract does not occur and that it is always secondary to a lesion in the kidney, removal of which is the correct line of treatment. But this is not the view I held then nor do I hold it now. In this case, although the bacilli were found to be coming from the right kidney, no lesion of this could be detected, and they were only occasionally found in the urine. Orchidectomy was performed because the testis had not decreased much in size whilst he was under treatment; and it was felt that he would be all the better if so much tuberculous disease was removed. On thinking matters over it seemed that the pathology of genital tuberculosis was somewhat of a mystery, and I decided that I would start to think out the problem afresh.

As the literature was read, often one was not certain to what case the writer was referring. Post-mortem statistics are quoted without reference to the cause of death; and tuberculous lesions in the genital tract are included which are clearly only incidental to fatal tuberculous disease elsewhere in the body. There are frequent references to experiments on animals to justify some theory that is being put forward. It is forgotten that, whilst it is possible to produce tuberculous lesions of the genital tract in susceptible animals, these bear no resemblance to the tuberculous disease that is found clinically in man. In fact, it is not possible to produce this in any species of animal. Many of the findings in animals do not occur in man. For instance, in support of the ascending theory of infection, it is claimed that if bacteria are placed in the urethra they can be found in the kidneys in a large proportion of cases. Yet it is known that if a woman has a coli infection or urinary tuberculosis, it is rarely if ever that the husband is infected during coitus. It cannot be that the organisms are not deposited in the urethra. For if gonorrhœa is present even in a mild form and coitus takes place, infection of the male seems to be inevitable. With gonorrhœa the gonococci may be found in the kidney but only occasionally and very late in the disease after the posterior urethra has become involved.

The more one reads, the more confused one becomes. It is obvious that some theory as to the method of infection and its spread is first put forward or some particular operation is advocated, and the clinical findings are being twisted to support these. It is easy to do this when investigating genital tuberculosis. For whilst the examination of the testis can be done thoroughly and at ease, if there is much swelling it is impossible to be certain where the epididymis ends and the body of the

testis begins. It is difficult to be exact when one comes to examine the prostate and seminal vesicles. For the consistence of these varies not only from one decade to another but also from week to week; and at times one cannot be certain whether a firmness is due to physiological distension or to disease. A fully distended vesicle that is not the seat of disease may resemble one that is the seat of tuberculosis. It is not so irregular or so firm. But then a vesicle that is the seat of tuberculous disease may occasionally be tense and soft. And when disease is present, though one can generally say whether the prostate or the vesicle is involved, at times it is not possible to be certain where the prostate ends and the vesicle begins. Now when the surgeon examines a breast he is often a little uncertain whether a thickening is just the normal breast undergoing involutionary changes or whether it is evidence of mastitis, notwithstanding that this examination can be carried out with himself and the patient at ease and that the fingers of one or both hands can be utilised at will. But how much more uncertain is he going to be when he examines the prostate and vesicles. For he has to palpate these with the tip of his index finger covered with a finger stall in a position that is one of discomfort for both the patient and himself. The difficulties are added to if the patient is nervous or a spasm of the sphincter is set up. And often the surgeon feels that the examination would be much more thorough if only he could reach a further half an inch or could bring two fingers into play. As Mr. D'Arcy McCrea [8] pointed out, clinical records depend on the thoroughness of their maker and in this region in part on the length and education of the index finger.

Then there is no method by which exact records of the progress of the disease can be kept. Most of us employ an anatomical chart upon which the site and extent of the disease are marked. These seem quite adequate at the time they are made, but when the patient is examined at a later date one finds that one has to rely largely on the memory. And this is so apt to let one down in times like these through which we are now passing. For it is no longer possible to give to our work that quiet and sustained thought which comes to our aid in quieter times.

When one compares the literature of genital tuberculosis with that of urinary tuberculosis, one is struck by the difference. With the former, good papers are extremely few. But with the latter most of the papers are very good; the difficulty is to know which is the best. It is obvious that urologists are now speaking with authority on the pathology, the diagnosis and the treatment. Though different lines of thought are at work and the nature of the disease is approached in various ways, the conclusions reached are much the same. For instance, in the treatment

the only point now really in dispute is whether at the time of the nephrectomy the whole of the ureter should also be removed. It is well to remember that the certainty of our views upon the pathology, the diagnosis and the treatment did not result from experiments on animals or work in the laboratory but came about through the introduction of the cystoscope, the power to draw off the urine of each kidney and the discovery of substances that, after being injected intravenously, were excreted in the urinary tract which was rendered opaque to X-rays. These, placed in the hands of the urologists, whose clinical work gave them a good conception of the natural course run by the disease, and whose work in the post-mortem room had revealed to them much of its pathology, gave them the power to work out on the living their conception of the nature of this disease. Here urologists have every right to be proud of what has been accomplished.

But with genital tuberculosis the urologist finds himself to-day much in the same position as his predecessor was before the introduction of methods for these examinations. It must be admitted that much of what is regarded as established is really theoretical and at times little short of a guess. As I took up the work, at times I felt completely lost; at times a little uncertain; but now and again knowledge seemed to become more exact and my views a little more definite. Then the following case came my way :—

W., a youth aged seventeen, was found to be suffering from caries of the 2nd and 3rd lumbar vertebræ in November, 1937. He was admitted to Glan Ely sanatorium and treated on a dorsal frame. In April, 1938, he had an attack of hæmaturia associated with frequent and painful micturition. No sign of disease could be detected in the genital organs. The urogram revealed no irregularity of the pelvis or calyces of either kidney. Cystoscopy showed uric acid débris at the base of the bladder but no evidence of tuberculosis. The urine contained no bacteria but a guinea-pig that was inoculated died from generalised tuberculosis. In August, 1938, the urine contained a marked cloud of albumen but no pus or bacteria. In March, 1939, acid-alcohol fast bacilli were found in the urine. A rectal examination revealed tuberculous lesions in both lobes of the prostate and both seminal vesicles. Cystoscopy showed a healthy bladder and no change in the ureteral orifices. Indigo-carmine injected intravenously appeared in four minutes from each. The urine from the right contained a trace of pus and a few tubercle bacilli. That from the left was normal. The urogram revealed no sign of disease in either kidney. Treatment was continued in the sanatorium. In May, 1939, the disease in the spine had become quiescent and progress was regarded as very satisfactory. The lesions in the genital organs seemed

less extensive. In November, 1939, the left testis became swollen and was obviously tuberculous. The urogram showed a filling defect in the upper calyx of the right kidney, but no cavity formation. The urine from the right kidney contained a trace of pus and a few bacilli. That from the left was normal. He was transferred to a sanatorium and was examined in March, 1940. The lesions in the epididymis and the prostate and vesicles were less extensive. But the urine still contained a trace of pus and bacilli were found to be coming from the right kidney. Cystoscopy revealed no lesion in the bladder and there was no delay in the appearance of indigo-carmine. The filling defect in the upper calyx of the right kidney was confirmed in a second urogram. It was decided to remove the right kidney. This was done in April, 1940. There were no adhesions and the ureter was not thickened. When the kidney was incised one pyramid opening into the upper calyx was found to be tuberculous and was becoming fibrosed. The rest of the kidney was quite healthy. The pus and bacilli disappeared from the urine and his general condition has remained excellent. But the lesions in the testes and prostate are much the same.

In this patient the tuberculous lesion in the spine progressed satisfactorily once treatment was instituted. And though the patient's condition continued to be excellent, nevertheless there appeared the urinary disorder and the lesion in the prostate and finally that in the left testis. Though these did subside to some extent, they were not clearing up as rapidly as was wished. After much consideration it was decided to remove the right kidney from which the bacilli had been found to come on each occasion that the urine from this was examined. For it was regarded as the source of the lesions in the genital tract. Yet the kidney shows the smallest lesion that I have ever come across in a kidney removed by operation. Microscopically, it was revealed that healing of this was going on and would have involved little strain on the patient. I had blamed myself in the first case for not having recognised the condition of the kidney earlier, so that he could have been submitted to operation, and now I was blaming myself for having removed the kidney. What good had I really done him by putting him through a big operation ? What am I going to think should tuberculous disease arise in the other kidney ? If I felt three years before that I knew little of the pathology of genital tuberculosis, I came to the conclusion now that I knew nothing. Five years of thought had led me so far. It is not that the problem is unsolvable but there are large blanks in our knowledge that have yet to be filled. And the views put forward in this paper should be regarded just as impressions that may be changed as the years go by.