The diagnosis and treatment of tuberculosis of the kidney / by Randolph Winslow.

THE DIAGNOSIS AND TREATMENT OF TUBERCULOSIS OF THE KIDNEY.*

By RANDOLPH WINSLOW, A. M. M. D.,

Professor of Surgery, University of Maryland, Baltimore, Md.

The very courteous invitation to read a paper before this distinguished body reached me at a time when I was much occupied with my professorial duties, and consequently unable to devote that thought and care to the preparation of a paper, which the occasion demands.

In considering, however, how I might occupy the time at my disposal in a profitable manner, the subject of tuberculosis of the kidney presented itself, and comes with an especial fitness at this time, since a case recently in my care was a native of this state.

I will make this case the subject of my remarks to-day.

J. H. White, aged 23 years, laborer, was admitted to University Hospital, Baltimore, on February 16th, 1905, and was discharged improved March 23rd. There is nothing of especial interest in his family or previous personal history. His health was good until the present ailment began. He denies having had venereal infection of any kind. Almost one year ago he experienced an increased frequency in micturition, with pain, and subsequently passed bloody urine. These conditions gradually abated, but about Christmas they re-appeared with increased severity, and have continued to the present time. The patient is somewhat emaciated and is cadaverous in appearance. He does not complain of any marked pain or discomfort in the region of either kidney, nor can the kidneys be palpated. He has not had symptoms of renal colic, and his distress is referred to the bladder. On examining the bladder with the sound, some pain was felt by the patient, but no stone or other pathological condition was detected. On admission his hemoglobin was 70%, red blood cells 4,000,000 and leucocytes 12,400 to the cubic mm. The examination of the urine showed spgr. 1018, color light, reaction acid, a distinct ring of albumen, no sugar, and an abundance of pus. His temperature was rather irregular

*Paper read at the meeting of the North Carolina Medical Society, held at Greensboro, N. C., on May 25th, 1905.

and ranged from normal to 101F. and the pulse rate from 80-100. The urine was also examined for tubercle bacilli with negative result. The heart and lungs appeared to be normal, nor was there any evidence of disease of the testicles, epididymes or other external genitalia, whilst the prostate may have been somewhat enlarged.

A cystocopic examination was made by Dr. Page Edmunds and revealed an almost normal bladder, with some inflammation and ulceration about left of the ureteral orifices. A catheter could only be introduced a short distance into the left ureter, when it met with an obstruction. The right ureter was not catheterized. The diagnosis of tubercular ureteritis and nephritis was made. Lumbar nephrectomy was performed in the usual manner. The kidney was separated from its connections with some difficuty and brought out of the wound. It was enlarged, mottled and lobulated, resembling a fœtal kidney. The ureter was dilated and much thickened, and was divided quite low down. When the kidney was incised a number of caseous foci containing pus were found, and miliary tubercles were also present. The pus cavities correspond to the calyces of the organ. The patient did reasonably well, passed urine in sufficient quantitities, had but little elevation of temperature, and was able to sit up in ten days. He gained flesh and appetite and left for home in a much improved condition, but still suffering from painful micturition.

Tuberculosis of the kidney occurs both as a primary and secondary process. It is said that 15% of cases of renal tubeculosis are primany, while 25% of tuberculous patients have some secondary infection of the kidney. This infection is usually conveyed by the blood current, less frequently by an extension of the disease from some contiguous structure, while in rare cases there may be an extension from the bladder upwards along the ureter. This disease may occur at any age from infancy to senility, but it is most frequent from 20 to 40 years of age, and is found more frequently in females than in males. Both organs are involved in a considerable proportion of cases. The object of this paper, especially, is to call attention to the fact that in some cases, I might say in most cases of renal tuberculosis, the symptoms are referable to the bladder, rather than the kidney, and these patients, as the one

whose protocol I have read, have their bladders washed out for a long period, without any corresponding benefit. It is therefore important that the practitioners of medicine should be on the alert to recognize the true condition as early as possible, in order that effective surgical treatment may be applied. The symptoms of this affection are by no means uniform. In some cases there may be no symptoms at all, until a very late period; in all cases sometime must elapse before distinctive symptoms occur. The family history in some cases will show a decided tuberculous predisposition, as in a case operated on by me where the paternal grandfather and grandmother, father and mother, and three brothers died of tuberculosis, thus showing an hereditary tendency to some manifestation of this disease, and gave the clue to a correct diagnosis. Sometimes the first symptom will be pain in the renal region, acute and lancinating, radiating down the ureter, or reflected to the shoulder, or other parts, or dull and aching, and more or less stationary. A tumor mass more or less resembling the kidney may be the first sign noticed or there may be no palpable lump in the loins. As has already been stated, the first and sometimes only symptoms will be referred to the bladder. Dr. George Walker, from whose elaborate article vol. xii Johns Hopkins Hospital Reports, I have obtained the statistical information herein detailed, says: "So much am I impressed with the great frequency of this symptom, that I hesitate to make a diagnosis of renal tuberculosis where it is absent." Frequent and painful micturition is then a prominent symptom in almost all cases of tuberculosis of the kidney. In some patients the discomfort is of a burning character, rather than painful, as was the case with a young colored woman upon whom I operated. The urine may be increased in quantity as well as in frequency and will soon show pathological changes. It becomes cloudy or discolored from the admixture of blood, pus, epithelium and caseous material. The specific gravity is usually lower than normal, and the reaction acid or neutral. The occurrence of pus in an acid urine is strongly suggestive of trouble of the upper urinary passages, and not the bladder. The pus may be small in amount or may form a large part of the excretion.

Blood in varying quantities is found at times in almost every case, and should be carefully sought for. Albumen is usually present, dependent upon the amount of pus in the urine, tube casts may or may not be found. Tubercle bacilli can usually be found in the sedimented urine, but are sometimes overlooked. Other organisms are also generally present. When possible there should always be a cystoscopic examination of the bladder, and sometimes the ureters may be bougied, but there is always danger that the healthy ureter may be infected in this manner, hence it is best not to catheterize the healthy ureter in most cases.

Constitutional symptoms are generally absent or not marked at first, but usually occur before long. These are especially, more or less, elevation of temperature, with remissions and sweats as in other tuberculous conditions, progressive and often rapid loss of flesh, sometimes vomiting, and when both kidneys are diseased, diminished excretion of urine, and eventually uremia. As the infection is frequently a mixed one, a blood count will often show a marked leucocytosis, and is a valuable adjuvant in making a diagnosis.

This paper deals especially with discrimination of renal tuberculosis from cystitis, or other disease of the bladder, but there are other pathological conditions of the kidney that more or less simulate tuberculosis. Renal calculus presents many of the same symptoms, but there is an absence of as marked constitutional phenomena. The vesical irritation is not so pronounced, the urine does not contain tubercle bacilli, unless there is an association of tuberculosis with lithiasis, and a skiagraph will generally show a stone.

Neoplasms do not cause the pronounced symptoms of tuberculosis, there is no pus in the urine, bladder symptoms are not present, and the tumor mass is larger, and grows more rapidly.

Pyonephrosis from infection with pyogenic organisms is a more acute process, as a rule, is often due to extension from below, and presents a larger and more painful tumor, with rigidity of the overlying muscles and greater tenderness on pressure.

Hydronephrosis is not likely to be mistaken for tuberculosis.

Having determined the nature of the affection, and the side diseased, it is important to ascertain the presence and functional competence of the opposite organ. This is best done by a cystoscopic examination, by means of which the urine may be seen to escape from the orifice of the uterer and in appropriate cases the ureters may be catheterized and the urine from both urerters collected and examined. The injection of 1cc of a 20% aqueous solution of methyleneblue into the subcutaneous tissues is also a valuable test, as this is promptly eliminated by the normal kidneys, but slowly by diseased organs.

Tuberculosis of the kidney is a fatal affection, and no case is known where the patient has recovered from the disease, though in some cases the fatal result is long delayed. Dietetic, climatic, and medicinal treatment, has no special power to arrest or cure the malady, and surgery alone offers some hope of restoration to health and usefulness.

From the foregoing remarks it will be seen that the treatment of renal tuberculosis is surgical, and when the patient's condition is sufficiently good to withstand a serious operation, and the opposite kidney is healthy, nephrectomy ought to be performed. Even if the opposite kidney shows evidence of disease, nephrectomy may be permissable if the kidney is disorganized, and is a focus from which tubercle bacilli are being discharged. The presence of tuberculous disease of the ureter and bladder does not contraindicate a nephrectomy, as it is a matter of observation that the disease of these parts may remain stationary or progress but slowly, when the affected kidney has been romoved. As in malignant diseases in general, early operation is indicated. As soon as unilateral tuberculosis of the kidney can be determined, the time for removal of the organ has arrived. In some cases, where the condition of the patient is not favorable, or where there is extensive suppuration, it may be proper to do nephrotomy and perhaps subsequently remove the kidney. Two methods may be employed to reach the kidney, the lumbar or the abdominal. It is always preferable to use the former, when the tumor is not too large, as it is retroperitoneal, gives better drainage and has a lower mortality.

The following cases of undoubted tuberculosis of the kidney have also been under my care rather recently.

Case 2.—Mrs. Z., white, 40 years of age, native of Maryland, was admitted on Oct. 30th, 1903, and discharged December 10th, improved. Her family history has already been mentioned, as showing a markcd tuberculous tendency. She has had measles, scarlet fever, pneumonia and typhoid fever, without sequelæ. More recently has suffered with quinzy and muscular rheumatism. She is married and has eight living children and two who are dead. The first thing she can remember in regard to the present ailment, is that her urine became dark and offensive, sometime subsequent to this, she felt something slip in her right side, followed by much pain, which has continued more or less since. She has lost weight and strength. Present condition: There is a large mass on the right side extending from the ribs to the pelvis, hard, irregular, tender on pressure, but not very painful. Heart and lungs appear healthy. Does not complain especially of her bladder. Hemoglobin 70%, white calls 6,000 to cmm. Urine cloudy, thick sediment, albumen present, no sugar, slightly alkaline, and a large quantity of pus, crystals of triple phosphate, mucus and epithelium.

No cystoscopic examination was made. In view of her history, the presence of a tumor mass in the right flank, and the presence of pus in the urine, it was thought that a condition of renal tuberculosis was present, and an operation was decided on. In view of the large mass, an anterior incision through the right semilunar line, was made into the peritoneal cavity. The cæcum and ascending colon were firmly adherent to the mass in the side, and there were many enlarged glands in the mesocolon which were adherent to each other. The colon was separated with difficulty, during which enucleation the mesentery was extensively detached from the bowel. The mass in the side consisted of inflamed tissue forming, a capsule for the tuberculous kidney. This capsule was an inch thick. The kidney and capsule were removed and a tuberculous lesion of the kidney was found at the lower pole, which had penetrated the kidney and caused the extensive infiltriation of the surrounding tissues. It was not possible to remove all the glandular masses under the colon, without unduly prolonging the operation, and increasing the gravity of the situation. Some pus, was also found under the colon.

The wound was drained, and no untoward complication occurred. I feared greatly gangrene of the colon, from the extensive injury to the mesocolon. She went home on December 10th and I am informed by her physician, that her health has been restored, and that no tumor masses can be felt in her abdomen. She weighs 175 lbs. and has given birth to a 10 lb. baby since she returned home.

Case 3.—P. F., colored female, aged 23 years, admitted to the University Hospital on December 14th, 1903, and discharged improved on January 15th, 1904. Married, has had two children, who died at an early period, cause of death unknown. Mother died at the age of 41 years of phthisis. The patient says: "I suffer with my bladder, and pain in stomach." Three years ago she began to complain of frequent micturition, with discomfort, referred to the neck of the bladder, which was of a burning character, more than pain. Bloody urine was passed for several months, but subsequently ceased and the urine is now generally cloudy in appearance. At first there was no pain in the loins but now at times pain is experienced in the kidney region. She has lost weight from 140 to 110 pounds. On admission the temperature was somewhat irregular, varying from normal to 101F., pulse, 90-120. There was a palpable mass in the right loin. The urine was cloudy, no sugar, pus cells abundance, a few red cells and no casts. No tubercle bacilli were found in the urine or sputum. Both uterers catheterized by Prof. Hundley, from right side, purulent urine was obtained, from left side, normal secretion. Hemoglobin 36%. Patient's general condition not very good. Lumbar nephrectomy was done, in the usual manner, and the patient made a satisfactory recovery. She continues well and has gained flesh and strength.

(Reprint from Gaillard's Southern Medicine.)