ECTOPIC KIDNEY CONTAINING MASSIVE
CALCULI.

BY

H. P. WINSBURY WHITE, F.R.C.S.ENG.,

ASSISTANT SURGEON, ST. PAUL'S HOSPITAL FOR SKIN AND GENITO-URINARY
DISEASES.

An interesting point in the clinical features of the following case was the fact that the pain was not located at the site of the ectopic kidney, but always in the left costo-vertebral angle. Following the nephrectomy there was again a complaint of pain in this locality for a few days.

A man, aged 45, complained of constant pain in the left side of the back. It was of old standing, and on this account he had been discharged from the navy as unfit for further service nine years before. He had been in a number of hospitals during the past ten years, and although radiographic investigations had been carried out in all the cause of the pain had escaped recognition.

When I first saw the patient, although he was a little thin, his general condition was fairly good. The urine contained a considerable amount of pus. The radiographic examination revealed no abnormality in either renal region, but in the pelvis, lying mostly below the brim, occupying the hollow of the sacrum in a medial situation, was to be seen a curious irregular opacity.

On cystoscopy I found the bladder to be free from stone, but the seat of a chronic inflammation which was most marked about the left ureteric orifice. This structure was injected, swollen, and immobile. The right ureteric orifice was normal in appearance and efflux of clear urine could be seen coming from it. A ureteric catheter failed to pass up the left ureter for more than 2 cm., while 30 cm. of catheter readily passed up the right, indicating a normal length of this structure. Following the intravenous injection of 5 c.cm. of 0.4 per cent. indigo-carmin, the dye was excreted in good concentration from the right side in three minutes, whereas it had not appeared at all from the left after ten minutes had elapsed.

Microscopical examination of the urine from the right kidney failed to reveal any pus, but a few Gram-negative bacilli were seen. These, on culture, proved to be of the *B. coli* group. The urine from the bladder contained a considerable amount of pus and numerous coliform bacilli.

It was concluded from these observations that the pelvic opacities were due to a mass of calculi in the left kidney which was occupying the hollow of the sacrum, that the infection of the bladder had its origin in the left kidney, and that the right kidney was present in its normal position and functioning well. Operation was therefore undertaken with the intention of removing the ectopic organ with its stones.

Operation.

With the patient in the Trendelenburg position the abdomen was opened through a left paramedian incision from umbilicus to pubes. The right kidney was felt in its normal position, with no palpable evidence of disease. It was, however, slightly larger than normal, presumably from hypertrophy. There was no kidney in the left renal region. Projecting forward from the promontory and the hollow of the sacrum was a hard, somewhat irregular mass, having the dimensions of a slightly enlarged kidney. The lower part of the pelvic colon and the rectum lay respectively above and to the right of the projection. On dividing the overlying peritoneum the left kidney was identified with its pelvis and hilum directed forward and somewhat to the right. It is a usual feature of a kidney in such a position for the hilum to be directed anteriorly. The whole organ was surrounded by, and adherent to, a considerable fibro-fatty mass and could be felt to be full of stones.

The only difficulty which I experienced with the nephrectomy arose from the fact that I was quite unable to make out where the blood vessels entered or left the kidney, on account of the extensive adhesions. This prevented several of the vessels from being identified and secured before being divided.

The accompanying figure is a drawing of the specimen after removal, and from which the right side of the parenchyma and strips of the same side of the pelvis have been taken to show the full extent of the calculous formation. It is also seen that the vessels are largely aberrant, inasmuch as their connexion with the kidney is through the cortex. Two veins were the only vessels connected with the kidney by way of the hilum. It was not possible to be certain without unnecessary dissection which were the parent trunks of these vessels. It is not unusual in such cases for the vessels to come from several adjacent sources such as any of the iliac vessels, or the aorta.

The retroperitoneal site of the kidney was drained for forty-eight hours and the patient made an uneventful recovery.

The accompanying drawing shows the extensive nature of the calculous formation; all of the dilated calyces and the pelvis were completely filled with stone. The shape of the pelvis is worthy of special attention as this structure is divided into three limbs, all lying outside the actual kidney.

From study of a radiogram it was difficult, owing to the more or less medial position of the stone shadows, to decide whether the right or the left was the misplaced kidney. Such a situation of the ectopic organ is occasionally noted, but more frequently it lies over the corresponding sacro-iliac synchondrosis.

In certain rare instances of pelvic kidney this is the sole renal organ. Such a contingency impresses one with the necessity of establishing the presence or absence of the other organ before the full extent of the operation is decided.

I have noted two cases from the literature in which this precaution was neglected. In one case a solitary tender left kidney lying in the left iliac fossa of a female aged 19 years was removed. The kidney was subsequently found to be perfectly healthy. The patient lived for nine days. At the autopsy the right kidney and ureter were both absent. In the other instance the only kidney, a pelvic one, was removed because it was thought to be a sarcomatous metastasis from an ectopic testis.

In considering the relative incidence of renal abnormalities, Stewart and Lodge quote the following figures from 6,500 consecutive autopsies:

Congenital absence of kidney	16 cases
Horseshoe kidney	14 "
Pelvic kidney	3 "
Unilateral fused kidney	1 case

Many *post-mortem* examples of healthy ectopic kidneys are recorded. The majority of diseased ectopic kidneys which have been reported have been the seat of hydro-nephrosis. Calculous formation is a

far less common complication.

LITERATURE.

- Abrajanoff: *Ann. des mal. des org. génito-urin.*, 1904, No. 2.
 Alglaive and Papin: *Journ. d'urol. méd. et chir.*, Paris, 1920, ix, 37-40.
 Bevan: *Journ. Amer. Med. Assoc.*, 1910, liv, 9, 665-670.
 Denois: *Bull. Soc. de Radiol. Méd. de Paris*.
 Papin: *Encyclopédie française d'urologie*, 1914, iii, 246.
 Pillet: *Normandie Méd.*, Rouen, 1919, xxxi, 36.
 Rafin: *Journ. d'urol. méd. et chir.*, Paris, 1919, 121-127.
 Stewart and Lodge: *Brit. Journ. Surg.*, 1923, xi, 36.

A SIMPLE METHOD OF DEFIBRINATED-BLOOD
TRANSFUSION.

BY

E. F. SKINNER, M.A., M.B., F.R.C.P.,

ASSISTANT PHYSICIAN, SHEFFIELD ROYAL HOSPITAL; CONSULTING
PHYSICIAN, JESSOP HOSPITAL FOR WOMEN.

THE value of blood transfusion in certain conditions is now beyond dispute, and as a means of combating shock, either before or after operative intervention, has become almost a matter of routine.

Of all available methods, doubtless the transfusion of whole blood is physiologically the best, but the difficulties are such as to preclude its use except by a trained team; for practical purposes the transfusion of non-coagulable blood is almost universally employed.

Blood may be rendered non-coagulable by the addition of some anticoagulant such as sodium citrate or by defibrination. Both methods are simple and require no very special skill, and each has its appropriate indications. I described a very simple method of transfusion of citrated blood in the *BRITISH MEDICAL JOURNAL* of May 5th, 1923: the blood is withdrawn from the donor's arm into a graduated bottle

of 500 c.cm. capacity, into which also small quantities of sodium citrate are allowed to run from time to time, according to the quantity of blood required.

I propose to describe here an equally simple method of obtaining and transfusing defibrinated blood. I assume that all the usual precautions of grouping have been previously carried out.

The apparatus consists of a wide-necked bottle, graduated in divisions of 50 c.cm., with a total capacity of 500 c.cm., which is a satisfactory amount of blood to give as a maximum at any one operation. The bottle is fitted with a rubber cork, through which passes a short length of glass tubing and a long stout nickel silver wire, turned into a wide flat spiral coil at its lower end. A suitable length of rubber tubing connects the glass tube with a wide-bored short-bevelled needle. Through the cork also passes another short glass tube connected with a Higginson's syringe, for the production, within the bottle, of a slight negative pressure. The whole of the apparatus is sterilizable, and constitutes the receiving apparatus.

The donor lies down, the flexure of the elbow is sterilized, and a tourniquet applied to the upper arm. The apparatus having been put together, with a clip on the tube carrying the needle, two or three squeezes of the Higginson's bulb will produce a little negative pressure in the bottle.

The needle is then inserted into one of the veins at the bend of the elbow, the needle being pushed in against the blood flow, so that when the clip is removed from the tube blood will flow directly along the needle into the bottle. This manœuvre is the only difficulty, and a very little practice will render anyone quite capable of venipuncture on almost every occasion.

As soon as the bottle begins to fill, the Higginson's syringe should be gently squeezed every few seconds with the left hand, whilst with the right hand the bottle is kept constantly revolving gently, thereby swinging the blood content against the nickel spiral, which may with advantage be slightly roughened by filing. As soon as sufficient blood is obtained the needle is withdrawn, the Higginson's syringe detached, and the bottle continuously rotated for about six minutes, at the end of which time the cork is removed; a large single clot of fibrin will be found adhering to the spiral.

The rest of the blood should be, and generally is, absolutely free from any fibrin, but to make it quite safe it must be filtered. This has proved one of the difficulties of the method, but I have recently used a special fritted glass filter instead of glass wool or silver gauze; this solves the problem of filtration. This filter is made by Schott and

Gen, Jena, and is numbered 11aG3/2-3; it has a mesh of 100 to 110 microns, and allows the passage of blood quite easily; it can be washed free from fibrin afterwards, and can be sterilized without fear of damage.

A convenient receptacle for the filtered blood is a mercury container, to the end of which is attached a rubber tube provided with a clamp and needle attachment. The filter is inserted into the open end of the mercury container and the defibrinated blood poured through the filter. It is now ready for administration.

It is not always easy, in a collapsed patient, to be sure the needle on the end of the tube has entered the vein comfortably, and I now invariably employ a 10 c.cm. Record syringe fitted with a small Harrison's tap, which also fits the ordinary Wassermann needle.

With the tap open and the syringe piston well down the needle is pushed directly into the recipient's vein (in the opposite direction to that when taking blood from a donor), and if the needle is comfortably in the vein a slight withdrawal of the piston will give proof. The tap is now turned, the syringe detached therefrom, and the tube from the receiver, with a suitable metal adapter, is pushed into the tap, which is again turned, and blood will begin to flow into the vein.

The recipient's vein is made prominent by the application of a tourniquet, as in the case of the donor, and this, of course, must be removed as soon as it is certain that the needle is in the vein.

Memoranda: MEDICAL, SURGICAL, OBSTETRICAL.

PERIODIC SWELLING OF THE SALIVARY GLANDS.

UNDER this heading a condition is described in Osler and McCrae's *System of Medicine*. The following brief notes of a case will be of interest because of the rarity of the disease and because a certain line of treatment was followed with apparent success.

A retired schoolmaster, aged 62, was seen by me with Mr. H. G. B. Blackman. He gave a very intelligent account of his attacks. The first was in 1916, and since then there have been two or three recurrences each year and at any season. Without assignable cause and while feeling perfectly well, the attacks commence with aching and stiffness at the angle of the jaw on both sides. This is followed within a few minutes by dryness of the mouth and by sneezing. Then the two parotid glands begin to swell simultaneously and symmetrically. They are tender and there is considerable disfigurement. After a few hours the mouth regains its moisture, the sneezing ceases, and the parotid swellings begin to subside, but their reduction is not complete until the third day.

This recurrent malady has been ascribed to plugging of Steno's duct by calculus or by inspissated mucus. But in my patient the simultaneous affection of both parotid glands excludes such an accidental cause. The same argument would apply to an infection of the ducts or of the glands. Sir H. D. Rolleston, writing to me on the subject, suggested "asthma of Steno's duct," and the constant association of sneezing in my patient's attacks seemed to support the idea. At the commencement of his last attack he was given hypodermically 3 minims of adrenaline solution. The whole attack was at once brought to an end and within an hour the swelling of the parotids had gone. This has not happened in any previous attack.

F. W. BURTON-FANNING, M.D., F.R.C.P.

Norwich.

CALCULUS IN THE TESTES.

A MAN, aged about 30, consulted me in the Bhuj Civil Hospital for a chronic sinus in the right side of the scrotum, which had existed for more than eighteen months. There was some pus coming out of the sinus; it was hard, and I suspected a haematoma or a malignant tumour or tubercle in connexion with the testes. There was a history of tapping, by which I thought a haematoma might have been caused. The patient had some rise of temperature regularly in the evening. He was admitted to the hospital, and under chloroform an incision was made about 3 inches