(4) No new cases of sudden death immediately after injection have been returned.

(5) The number of cases injected reasonably early in which the serum appeared not to influence the progress of the disease was but nineteen, these being made up of nine cases of somewhat doubtful diagnosis; four cases of diphtheria complicating measles, and three malignant cases in which the progress was so rapid that the cases had passed beyond any reasonable prospect of recovery before the serum was used. In two of these the serum was of uncertain strength and of doubtful value.

(6) The number of cases in which the patients appeared to have been made worse by serum were three, and among these there is only one new case in which the result may fairly be attributed to the injection.

(7) The general mortality in the 5,794 cases reported was 12.3 per cent.; excluding the cases moribund at the time of injection or dying within twenty-four hours, it was 8.8 per cent.

(8) The most striking improvement was seen in the cases injected during the first three days. Of 4,120 such cases the mortality was 7.3 per cent.; excluding cases moribund at the time of injection or dying within twenty-four hours, it was 4.8 per cent.

(9) The mortality of 1,448 cases injected on or after the fourth day was 27 per cent.

(10) The most convincing argument, and to the minds of the Committee an absolutely unanswerable one, in favor of serum therapy is found in the results obtained in the 1,256 laryngeal cases (membranous croup). In one-half of these recovery took place without operation, in a large proportion of which the symptoms of stenosis were severe. Of the 533 cases in which intubation was performed, the mortality was 25.9 per cent., or less than half as great as has ever been reported by any other method of treatment.

(11) The proportion of cases of broncho-pneumonia — 5.9 per cent. — is very small and in striking contrast to results published from hospital sources.

(12) As against the two or three instances in which the serum is believed to have acted unfavorably upon the heart, might be cited a large number in which there was a distinct improvement in the heart's action after the serum was injected.

(13) There is very little, if any, evidence to show that nephritis was caused in any case by the injection of serum. The number of cases of genuine nephritis is remarkably small, the deaths from that source numbering but 15.

(14) The effect of the serum on the nervous system is less marked than upon any other part of the body; paralytic sequelæ being recorded in 9.7 per cent. of the cases, the reports going to show that the protection afforded by the serum is not great unless injections are made very early.

The Committee feels that this has been such a responsible task that it has thought best to state the principle which has guided it in making up the returns. While it has endeavored to present the favorable results with judicial fairness, it has also tried to give equal or even greater prominence to cases unfavorable to antitoxin.

In conclusion, the Committee desires, in behalf of the Society, to express its thanks to the members of the profession who have coöperated so actively in this in-

vestigation, and to Dr. A. R. Guerard for the preparation of the statistical tables.

(Signed)

L. EMMETT HOLT, M.D.,
W. P. NORTHRUP, M.D.,
JOSEPH O'DWYER, M.D.,
SAMUEL S. ADAMS, M.D., } *Committee.*

THE ACTION OF THE SOCIETY UPON THE REPORT.

At the close of its presentation, the Society voted to accept the report of the Committee and after a full discussion it was decided to embody its conclusions in the following resolutions:

(1) *Dosage.* For a child over two years old, the dosage of antitoxin should be in all laryngeal cases with stenosis, and in all other severe cases, 1,500 to 2,000 units for the first injection, to be repeated in from eighteen to twenty-four hours if there is no improvement; a third dose after a similar interval if necessary. For severe cases in children under two years, and for mild cases over that age the initial dose should be 1,000 units, to be repeated as above if necessary; a second dose is not usually required. The dosage should always be estimated in antitoxin units and not of the amount of serum.

(2) *Quality of Antitoxin.* The most concentrated strength of an absolutely reliable preparation.

(3) *Time of Administration.* Antitoxin should be administered as early as possible on a clinical diagnosis, not waiting for a bacteriological culture. However late the first observation is made, an injection should be given unless the progress of the case is favorable and satisfactory.

The Committee was appointed to continue its work for another year and was requested to issue another circular asking for the further coöperation of the profession, this circular to be sent out as soon as possible in order that physicians may record their cases as they occur through the coming year.

Clinical Department.

FURTHER CASES ILLUSTRATIVE OF RENAL SURGERY.¹

BY F. S. WATSON, M.D., BOSTON.

CASE VI. The patient, forty-three years old, was first seen by the writer fifteen months ago.

He had had a urethral stricture for twenty years. Sixteen years ago it was operated upon, and two subsequent operations were done during the next three years. From these he made a good recovery. The passage of sounds once in three weeks has been sufficient to maintain the calibre of the urethra at the size of 23, French scale, until within the past year.

During the last ten years he has had attacks of urethral fever once or twice every year. In the autumn of 1894 these attacks became more serious, and he was much prostrated by them. At that time there was a large tumor discovered by his physician in the left loin. As he recovered from this illness the tumor gradually diminished in size, and at the time of his first visit to the writer was not well defined, although

¹ These cases are to be added to the series published in the Journal of June 11, 1896.

it could be felt. The urinary stream was very small. The urine was loaded with pus, and of a rather low specific gravity (1.011). The patient was sallow, weak, often feverish at night, and looked like a seriously sick man.

Early in January, 1895, the stricture of the anterior urethra, of which there were two, of a calibre of 15, French scale, were divided by internal urethrotomy, and the stricture of the deep urethra, which admitted a filiform bougie only, by an external perineal urethrotomy.

A drainage-tube was tied into the bladder through the latter wound, with the intention of draining the bladder and the left kidney, which was believed to be the seat of a pyo-nephrosis. This effort was, however, unsuccessful, and the tumor in the left renal region having reappeared suddenly a few days after the operation for stricture, and the patient's condition becoming suddenly alarming, it was decided to explore the left kidney, and to drain or remove it according to the conditions found.

Operation. — Lumbar nephrotomy was performed January 16, 1895.

The kidney was rapidly exposed in the loin by a wide-armed, V-shaped incision, one arm of which was parallel with the twelfth rib and the other with the outer border of the quadratus muscle, the angle of the V being pointed upward and toward the spine.

A greatly distended kidney presented in the wound, and was opened through its convex posterior border by an incision about three inches long. The kidney was the seat of an immense pyo-nephrosis. There were several distinct pus cavities, the separating walls of which were broken down so as to form one large cavity, which was carefully cleansed.

The edges of the kidney wound were sutured to the abdominal wound with silk sutures and two drainage-tubes were inserted into the kidney pelvis. A No. 13 French bougie was passed from the pelvis of the kidney into the bladder through the ureter, showing the latter to be pervious. The patient remained in a critical condition for twelve hours, then rallied, and made an uninterrupted recovery. He was up and about at the end of the third week. The drainage of the kidney through the loin has been maintained ever since. There is but little pus in the urine from this kidney, and almost none in that which comes from the bladder.

The specific gravity of the urine from the kidney operated on is from 1.011 to 1.013.

The patient had regained his health entirely and is in excellent condition. He wears a mechanical contrivance consisting of a hard-rubber plate and tube, through which a soft-rubber tube passes into the kidney, its outer end being led into a flat bottle which is attached to the waistband, and rests upon the left buttock.

It is now seventeen months since the operation, and the patient's condition has steadily improved. He seems likely to be another example of the advantage that nephrotomy offers, at any rate as a preliminary operation, as compared with a primary nephrectomy, even when there is very extensive suppuration of the kidney, for there are numerous cases reported in which restoration to health has occurred (some of the most interesting being those of Knowsley-Thornton) after nephrotomy with permanent drainage through the loin.

The kidney operated on in this case has shown its

ability to perform a fair share of its proper work, and is likely to do so for a long time to come, and meanwhile the other one will have time to establish a compensatory function at its leisure.

CASE VII. Movable kidney. Nephrorraphy, recovery.

The patient, a young woman twenty-six years old, who had previously been well, after lifting a heavy weight two years ago, began to have pain in the left kidney; at first this was occasional only, but soon became almost constant. It took the form for the most part of a dull ache below the twelfth rib; but from time to time it came in spasms, which were accompanied by a sense of fulness in the renal region. These attacks lasted ordinarily about an hour or two; sometimes they were of longer duration.

The patient soon became anemic and lost flesh and appetite. The anemia gradually yielded to treatment by iron, out-door air and careful regulation of the digestion.

Crystals of oxalate of lime appeared in the freshly passed urine from time to time, sometimes associated with attacks of pain, but not invariably. Albumin in slight traces was also present frequently, and the quantities of the urine became very variable, the most striking feature in this respect being the occasional occurrence of polyuria which lasted for about twelve hours at a time, the specific gravity at such times being usually 1.001 to 1.002.

With the attacks of pain the patient complained sometimes of a sense of nausea, which was greatly increased if pressure was made over the left kidney. Six months after these symptoms appeared, there began to be an improvement in her general condition, and during the spring of 1895 she gained in health for about three months. At the end of this time, however, pain began in the right kidney, and that in the left increased. At no time did these attacks assume the character of true renal colic.

In July of 1895, while examining the patient during an attack of pain felt in both sides, a floating tumor was felt on either side of the abdomen. These tumors were of the shape and size of the kidneys, and could be made to pass between the place low down toward the brim of the pelvis which they occupied to their natural position, giving as they did so a thoroughly characteristic sense to the fingers as they slipped into place in the back.

In August the attacks of spasmodic pain became more frequent, and it became evident that the left kidney was the seat of an intermittent hydronephrosis, from the following signs: Together with the attacks of pain a swelling could be plainly felt in the left loin and left side of the abdomen; after a time this would spontaneously disappear or could usually be made to do so at once by raising the hips of the patient. There always then occurred a sudden desire to urinate, and the patient would pass about eight ounces of urine, generally of a pale color and of low specific gravity. There was often an accompanying sense of nausea. The patient said that she could feel a swelling come gradually in the renal region, and was conscious that it subsided suddenly and that with this came almost at once the strong desire to urinate, and relief of pain. The writer actually observed the appearance and disappearance of this swelling several times.

Operation. — August 25, 1895. Nephrorraphy, by

a lumbar incision parallel with the last rib, was performed by Dr. Maurice H. Richardson. The kidney was seen to be of normal appearance, and palpation failed to reveal calculus. The kidney was sutured to the abdominal wound by six silkworm sutures passed through the fibrous capsule of the kidney, but not through the substance of the organ. The capsule was not split. The abdominal wound was closed by silkworm sutures. It united by first intention.

A A, B B, Longitudinal sutures passing through lumbar muscles, capsule and cortex of kidney.

C C', D D', Transverse sutures passing through the same structures. A and B, and C and D, are tied together at either end, thus slinging the kidney as in a hammock and apposing the muscular incision. E E, Longitudinal slit in capsule.

During the first six days the patient suffered a degree of pain such as I have never seen follow any surgical operation. The urine diminished in quantity during this time, and it was feared to give large doses of morphia such as would have been required to stop the pain. She had, however, subcutaneous doses of one-quarter of a grain three or four times in the twenty-four hours, but these were almost without effect. The only relief to the pain was found in the sitting posture, and the patient could not be kept on her back in consequence. It was on this account, I think, that the kidney became detached again.

On the sixth day the patient said that she was sure that the kidney had dropped down; the pain suddenly ceased, which seemed confirmatory, although at the time there was not much importance attributed to what the patient said. It was subsequently found to be true, for at the end of a month the kidney could be

plainly felt again in its abnormal position in the abdomen.

The pain returned in this kidney, but was at no time so severe as before the operation. The pain in the right kidney became very severe, and almost constant, and attacks of intermittent hydronephrosis were well marked and frequent.

Nephrorraphy with a new method of applying the sutures.—An incision was made along the border of the quadratus. There was very little perineal fat. The kidney was slightly enlarged, but otherwise seemed to be normal.

The posterior border of the kidney was freed from its fat capsule. Two chromicized catgut sutures were then passed through the fibrous capsule and the kidney substance, through two-thirds of the length of the organ, parallel to each other and about half an inch apart on either side of the posterior border of the kidney. These sutures were passed through the edges of the muscular layer of the lumbar wound. Two cross sutures were then carried through the kidney close to the points of entrance and exit of the long stitches. This method of applying the sutures is illustrated in Fig. 1. The object of so placing them is to sling the kidney as in a hammock, in order to secure the longest line of bearing for them and the least amount of cutting action, the cross sutures being placed as an extra security to prevent the tearing out of the long ones by placing an obstacle across their path should they do so.

Attention is called to the way in which the sutures are tied together, for on that depends their acting as a sling or hammock, and the avoidance of their cutting out. Before tying them and closing the lumbar wound, the fibrous capsule was split between the two long sutures over nearly the whole length of the kidney.

The fat capsule was cut away on either side of the convex border of the kidney, as recommended by Edebohls, the four kidney sutures were tied, and the lumbar wound closed by two layers of catgut sutures, one for the muscular, and one for the skin wound.

There was much less pain following this operation than the first, although the patient suffered much for the first four or five days. The pain was, however, bearable in the recumbent posture.

Three months and a half have passed since the operation. The patient has gained eight pounds in weight; there has been no pain in the right kidney since the first three weeks; and for the last six weeks pain has ceased in the left kidney also.

A CASE OF ACROMEGALY TREATED WITH THYROID EXTRACT.

BY G. G. SEARS, M.D.,
Assistant Visiting Physician, Boston City Hospital.

MRS. C., a widow, forty-five years old, first presented herself for treatment at the Boston City Hospital in January, 1895. Her maternal grandfather died insane; her father of a "complication of diseases," probably of cardiac origin, at the age of fifty; her mother of apoplexy at seventy-one. She has lost two brothers from consumption, while one brother, when last seen several years ago, had a brownish discoloration of the skin similar to that of the patient herself, and was "all bloated up."