region elicited no tenderness, and no enlargement of the kidney could be perceived. The wound was soundly healed, and the patient expressed herself as feeling well in all respects.

Fig. 1.—Diagram showing the distended pelvis and adherent ureter. *b* shows the stricture at the orifice of the ureter and the incision for ureteroplasty. *a* shows the position of the ureter after the second operation.

Fig. 2.—Diagram showing the spur-like projection at the entrance to the ureter.

CASE II.—Valve-formation at the Upper End of the Ureter; Pyelo-ureteroplasty; Solitary Kidney: Recovery.

M. B., female, aged 21. In September, 1902, the patient was confined. Shortly after her rising from bed she began to experience pain and a feeling of weight, "as though something were dragging" in the left side. Before this there had never been any symptom referable to the urinary organs. When the side was examined by her medical man a swelling was found. This increased gradually in size at first, until a tumour, obvious at once on inspection, had formed. During the last three months some variation in the size of the swelling had been noticed. The urine passed had varied a little in quantity, but had not been accurately measured. A diagnosis of hydronephrosis was made, and on April 20th, 1903, the kidney was explored through the loin. A large distension of the pelvis of the kidney was found. The pelvis was aspirated, and 32 oz. of thin clear urine withdrawn. On the inner side the ureter, which was of normal size, was adherent very firmly for about an inch to the wall of the pelvis. On separating it the upper end was found to be much thickened, and it was at first thought that a small stone might be impacted near the pelvis. The ureter was incised longitudinally, and the incision carried upwards into the pelvis. The thickening was found to be due to a prominent indurated spur which had formed at the junction of the pelvis and the ureter. The ureter opened obliquely into the pelvis, and that wall which was nearest to and adherent to the pelvis had formed, with the pelvic wall, a tough triangular valve, which seemed to be obstructing the entrance to the ureter. The incision in the ureter and pelvis divided this valve completely; it was continued upwards and downwards until its length was approximately 2 in. The vertical incision was then closed transversely. A small drainage tube was passed into the sac of the hydronephrosis through the cortex of the kidney, in order to drain away for a few days all the urine and so allow a better chance of healing in the ureteral wound. The wound in the loin was then closed, except at the point where the pelvic drainage tube issued.

For nine days all the urine was passed through the loin, no drop of urine issuing from the bladder. At the end of that time the tube was withdrawn and the wound gradually healed, and concomitantly urine began to be passed from the urethra.

The patient was seen on July 25th, 1903. The lumbar wound was entirely healed, the kidney could only just be felt. Urine was passed in normal quantity, and without any discomfort. The urine separator of Luys was passed. At the time of using this instrument I was not aware of the fact that no urine had been passed from the bladder for nine days subsequent to the operation, as two days after the operation I had left home for a few weeks. I found on passing the separator that all the urine escaped into the left test tube; not a drop came into the right. I was therefore very much chagrined at my apparent lack of skill with the instrument, but ample compensation was afforded me when I learnt the previous history, for it became then quite obvious that the patient possessed only one kidney, that upon which I had operated. The result, therefore, was a proof of the efficiency of the instrument as satisfactory as it was unexpected.

These two cases illustrate very well the treatment of hydronephrosis due to stenosis and valve obstruction of the ureter. In the first pyelo-ureteroplasty was followed by pyelo-ureteroneostomy; in the second the plastic operation alone sufficed to effect a cure. The number of cases of hydronephrosis which have been treated by procedures similar to these is still very small. In Mr. Henry Morris's book on *The Surgical Diseases of the Kidney and Ureter*, vol. ii, pp. 444, 445, only 12 cases are tabulated, and of these 5 were in the practice of the author. In Israel's work, *Chirurgische Klinik der Nierenkrankheiten*, page 72, 2 cases, one of valve formation and one of stenosis of the ureter, are recorded.

In Case 1 the stenosis of the ureter at its origin from the renal pelvis was doubtless congenital. Symptoms had been present since the age of 2. The high opening of the ureter was probably caused by the earlier and more considerable distension of the lower part of the pelvis. As the urine accumulated in the most dependent part of the pelvis, it would cause a bulging and an increasing distension of this part, so that as time passed the ureter would appear to be pushed higher and higher up in the inner wall of the sac. Although the opening at the first operation was made of large size, it was clearly inadequate as a means of drainage, on account of the fact that the lowermost part of the pelvis was never completely emptied. At the second operation the incision into the renal pelvis was made of good size and at the very lowest point.

In the second case the cause of valve formation was obscure. No better case than this could be quoted in strenuous advocacy of conservative treatment in the treatment of hydronephrosis, for the kidney affected was the only one the patient possessed, and if harm had come to that death would have been inevitable.

In both cases a thorough exploration of the whole length of the ureter was made, and no other abnormal condition was discovered.

DECAPSULATION OF THE KIDNEY FOR THE TREATMENT OF ALBUMINURIA.

By DAVID NEWMAN, M.B.,
Surgeon, Glasgow Royal Infirmary.

I HAVE read with much interest an article on Experimental Nephritis followed by Decapsulation of the Kidney by Drs. I. Walker Hall and G. Herzheimer, in the *BRITISH MEDICAL JOURNAL* of April 9th. While they deal with the subject almost entirely from the experimental and pathological standpoint, at the end of their valuable article they make a short reference to the surgical aspect of the subject. The conclusions they have come to by experimental methods are the same as those I have drawn from clinical experience over a period of many years. I have seen no reason to depart from my original opinion that the benefits derived from surgical operative interference in cases of albuminuria were due to relief of tension. When the capsule of an inflamed or congested living kidney is incised, the capsule retracts and the cortical substance pouts out through the wound, thus demonstrating that the parenchyma has been subjected to considerable pressure. Not only is this observed during life, but even in the dead kidney to a lesser degree the same physical conditions maintain. It is the contrary in old-standing parenchymatous and interstitial nephritis; in both these conditions there is no protrusion of the kidney substance when the capsule is divided. Edebohl and his followers maintain that decapsulation of the kidney is necessary, not only in acute but also in chronic renal affections, and that relief is obtained

by the establishment of a new and active cortical circulation, by which the diseased cells of the uriniferous tubules are regenerated and their functional activity increased. I look upon this view as entirely erroneous, and not supported by facts. I have never seen any such new formation of blood vessels in kidneys which have been decapsulated, quite the contrary, the new-formed fibrous tissue is usually found to be almost non-vascular when a few months old. When the capsule of the kidney is removed granulation tissue forms on the surface of the organ, and blends with the granulation tissue thrown out by the tissues of the parietes. At first the capillary circulation in this new cellular connective tissue is very active, but no new vessels of any size form, and within a comparatively short time it becomes converted into dense fibrous tissue.

Certainly Edebohls has rendered good service to the profession by the enthusiastic advocacy of surgical interference in certain forms of albuminuria, but I do not consider that his method of decapsulation does more good to the patient than relief of tension by simple incision, as advised by Mr. Reginald Harrison in 1896, and as practised by me in 1888.¹ It is true that in the instance referred to the operation was undertaken in the belief that the patient was suffering from renal calculus, but the operation and its result taught me that by incising the kidney "relief of tension facilitates the renal circulation," it relieved pain and caused the albuminuria to cease. This lesson I have always remembered, and it has regulated my practice in such cases ever since.

In my paper in the *Clinical Society's Transactions*, page 74, I said: "All the cases referred to above seem to have an important bearing, not only upon the pathology of albuminuria, but also on the treatment of it in certain cases;" and again at page 76: "I believe that not only in the cases referred to here, but in many others, the retardation of the glomerular circulation by venous engorgement is the chief factor in the causation of suppression of urine and some forms of albuminuria, and consequent relief of tension may give immediate ease to the patient and restore the function of the kidneys."

"General experience, I think, has shown that the vascular tension produced by mechanical venous obstruction or by inflammatory engorgement cannot be relieved permanently by drugs, while it can be rapidly alleviated, and serious consequences avoided, by surgical treatment. Free incision or local bleeding is clearly indicated in such cases, and in all cases of increased vascular tension of a tissue, whether the one or the other method should be employed, depends upon the immediate cause of the tension and the anatomical structure of the organ or part involved." As my case in 1888 was probably the first in which incision of the kidney was recognized as a means of relieving pain and causing the albuminuria to disappear, it may be worth while giving the following short account of the case as recorded in the article in the *Clinical Society's Transactions*, p. 77.

Sudden Suppression of Urine: Albuminuria: Renal Colic: Incision of Kidney, followed by Relief of Pain and Disappearance of Albuminuria.

In 1888, at the Western Infirmary, I saw a man who complained of severe pain in the loins, most severe, however, on the right side. It came on suddenly about two months previously, and at the onset was accompanied by rigors and a sudden diminution in the quantity of urine. I ascertained from his medical attendant, the late Dr. John Moyes, of Largs, that the urine at the beginning of the attack contained albumen, but no tube casts were discovered. Specific gravity 1025 to 1030, but daily quantity of urea diminished; quantity from 25 oz. to 35 oz. in twenty-four hours. The patient did not complain of headache, nausea, or vomiting, and no other of the characteristic clinical features of nephritis were present, such as anasarca, effusion into serous cavities, anaemia, or uraemic symptoms.

When seen at the infirmary the urine contained a moderate quantity of albumen but no tube casts, and comparatively little deposit was thrown down on standing. There was a history of the passage of small oxalate of lime calculi and of occasional haematuria. While under observation he had several attacks of distinct renal colic, which led me to the conclusion that he was suffering from renal calculus, and he was advised to have an operation performed in the hospital. This he refused, but consented, after some delay, to have it done in private. On exposing the right kidney by a free incision in the loin the organ was seen to be enlarged, of a dark chocolate colour, and very tense. On examining the kidney with needles for the detection of a stone free bleeding occurred, and as no calculus could be discovered with the needles I made a free incision into the pelvis in order to explore with the finger. The bleeding was very free, and the wound in the cortex had to be plugged with iodoform gauze. No calculus was found. I felt that I had made either an error in diagnosis or that my search had been imperfect, and left the case with the belief that harm rather than good had been done by the operation; but, to the satisfaction of the patient and myself, he ceased to suffer any pain, the albuminuria

disappeared entirely, and afterwards the patient enjoyed excellent health.

In this case, from the onset of the trouble till the time of the operation, albumen was constantly present and the quantity of urine remained considerably below the normal, but after incision the albumen disappeared and remained absent, and the quantity of the urine increased. I have no doubt that in this case the relief of tension by the incision facilitated the renal circulation.

The conclusions I have come to as regards the efficiency of incision of the kidney is that it is useful in cases of acute or subacute congestive disorders, such as acute nephritis, congestion associated with haematuria, in cases of anuria from toxic poisoning, or in other instances where the functions of the kidney are suddenly arrested without any evidence of mechanical obstruction to the escape of urine. I am glad to see that more importance is now being attached to surgical intervention in the cases I have referred to.

REFERENCE.

¹ Cases illustrating increased vascular tension in the kidney as a cause of renal pain, haematuria, and albuminuria, with or without tube casts, symptoms relieved by surgical treatment. *Clinical Society's Transactions*, vol. XXX, p. 65, 1896.

A FATAL CASE OF SECONDARY PAROTITIS.*

By BRENNAN DYBALL, M.B., B.S., F.R.C.S.,
Anaesthetist to the Royal Devon and Exeter Hospital.

PAROTITIS, as a sequel to injury or disease of the abdominal or pelvic viscera, is a well known but not very common occurrence. Though it may often be a troublesome or even a serious complication, it is as a rule overshadowed by the primary lesion. In the following case, however, the parotitis was of such severity as to be the actual cause of death, and it is therefore, I think, of sufficient interest to be reported:

Onset.

Mr. S. S. M., aged 37, after two days' slight epigastric pain, was seized with intense abdominal pain about 2 a.m. on November 14th, 1902. I saw him about two hours later. He was lying on his back with his knees drawn up, complaining of most intense pain all over the abdomen, but worse in the lower part. The pulse was 120, and the axillary temperature normal. The abdomen was slightly distended and scarcely moved with respiration, which was of the thoracic type; it was very tender and resistant all over, but not more so at any one spot than another; there was no dullness or local swelling, and repeated inquiries failed to elicit a history of any previous pain in the caecal region. There had been no vomiting or previous attacks of indigestion. The tongue was somewhat coated, and the bowels had not been opened for two days. Most of the teeth were in a shockingly carious condition. In the absence of localizing signs it was decided to wait a short time. Two hours later the pain was just as severe, but was now localized to the right iliac region, which was very tender and resistant to palpation, while the rest of the abdomen was comparatively free from pain and tenderness. He had passed urine and complained of great pain over the bladder when doing so. The urine was quite normal. The pulse was still 120, but the temperature had risen to 103° F.

Operation for Appendicitis.

It was clear that the patient was suffering from a very severe type of appendicitis and operation was advised. Dr. Davy saw him with me a few hours later, agreed with the diagnosis and the necessity for operation, and the patient was removed in an ambulance to the Home Hospital where the operation was performed. Chloroform was given by Dr. Andrew, and Dr. Solly assisted me. On opening the peritoneal cavity a little faecal-smelling thin pus escaped; there were no adhesions and the appendix was easily found. It was much swollen, gangrenous almost up to its junction with the caecum, half an inch from which a small concretion could be felt. There was no perforation. The meso-appendix was acutely inflamed and nearly half an inch thick. After shutting off the operation area with sponges, the appendix was removed by the usual "coat sleeve" method, the stump invaginated into the caecum and buried by a row of Lembert sutures. About an ounce of offensive pus was removed from the pelvis with sponges, after which the operation area and the pelvis were well irrigated with sterilized water and sponged dry. The wound was then closed, drainage being provided by a large rubber tube with a "wick" of gauze, reaching to the pelvis, and a smaller tube down to the caecum. The patient stood the operation very well, but gave a good deal of trouble to the anaesthetist owing to his tongue persistently falling back. Tongue forceps and a gag had therefore to be freely used, the latter causing some damage to his carious teeth.

After-progress.

As far as the abdominal condition is concerned, the after-progress was most satisfactory. There was no vomiting after the operation, the abdomen quickly became free from pain and distension, and moved well with respiration. The discharge from the drainage tubes was merely a little odourless serum; they were shortened daily and soon dispensed with. The incision healed without any trouble, and the sutures were

* Read before the South-Western Branch of the British Medical Association.