but the patient's temperature and pulse had fallen to 99° and 100 respectively; and, beyond a little sickness and slight pain, her condition was most comfortable. This putrid discharge continued for several days; but Mrs. S.'s convalescence was steady, and I ceased attending her on August 17th, leaving her, as I hope, radically cured of her rupture, although she will, as a measure of precaution, wear a truss. Among all the advances in abdominal surgery of the present day, drainage by means of large tubes stands, I think, pre-eminent.

Case IX, ovariectomy, was a very simple case. The tumour was of the left ovary. The right I found slightly enlarged by several small and thin-walled cysts, and I therefore removed it also, although it is questionable whether it would have taken harm if left. No tube was used, and, by the end of the second week, the patient appeared well, but recovery was hindered by inflammation round the stump of this ovary. The temperature rose on the fourteenth day, the bowels ceased acting, and there was sickness. Further exudation could be felt in the right iliac fossa. The lump, however, disappeared on the twentieth day, synchronously with a fall of temperature; but there was no evidence of any discharge of pus.

Case X, ovariectomy, is interesting chiefly on account of the youth of the patient. I saw her first in the end of February. I found a tumour rather high in the abdomen, which I diagnosed to be ovarian. This interfered but little with the child's comfort, although it gradually increased in size. In the beginning of August, she had slight peritonitis, and on the 13th of September ovariectomy was performed. The tumour was made up of so many thick-walled cysts, that it was not possible to lessen its bulk as much as usual before removing it, and I had therefore to enlarge the abdominal incision. The abdomen contained serum and flakes of lymph; but I did not use a drainage-tube. The temperature was 101.4° on the evening of the operation, though it fell in zigzag fashion to normal on the morning of the fourth day. The rise and the rapid pulse showed, I think, slight peritonitis. The little patient was, however, well in a fortnight.

These ten cases are, I believe, all in which, during the past fifteen months, I have had to incise the peritoneum. In a case which I saw with the gentlemen here present, where a patient, the subject of hernia, was moribund from peritonitis and obstruction of the bowels, we determined on making the incision and examining the hernia; but the sac was empty, and I think we did not open it.

It would be unfair to leave the impression that all my cases of abdominal section have been as successful as those here recorded. I have opened the abdomen for the removal of tumours eighteen times. Four cases of ovarian tumour and one of parovarian cyst ended fatally. The remainder have recovered. The favourable results in my more recent cases depend, I believe, mainly on three factors, the importance of which is recognised by all operators, although there have been many unseemly disputes as to their relative value. The first is, most minute attention to keeping the wound aseptic; the second is, perfect closing of the abdominal wound, and dropping the pedicle into the abdominal cavity; the third, the use of drainage where there is the least doubt as to the operation being, and the wound and abdominal cavity remaining, aseptic. There are, of course, in addition, many details of the operation, learned either from the extensive experience of other operators, or from my own more limited practice, which are important; but to these no allusion is here necessary.

CATHETER-FEVER.

By JAMES NIVEN, M.B., M.A. Cantab.

THE following remarks are suggested by the recent observations of Sir Andrew Clark on catheter-fever, and by the debate which followed at the meeting of the Clinical Society.

In the beginning of 1879 the late Dr. Hutchinson, in the course of a series of lectures on intermittent pyrexia, pointed out the liability of the urinary track to become the starting-point of attacks of intermittent fever, and cited in instance two cases; one, that of a man aged 40, suffering from stricture, in whom the formation of a false passage, the result of unskilful catheterising, excited an attack of fever, lasting over a week, and disappearing with the passage of a bougie into the bladder; the other, that of a man, aged 45, in whom the impaction of two small calculi in the left ureter led to a pyæmoid fever which, after a course of four weeks, ended in death. Albuminuria set in about the end of life. No pyæmic deposits were found.

I may add the following case. A medical man, about 33 years

old, after an operation for piles, required the passing of a catheter. This was followed by a rigor and remittent fever lasting about a week. The temperature attained a height of 104° or so on the second evening. He describes the illness as terrible, and attended for some days with the sensation of impending death, even when he was delirious. Both before and since he has been perfectly healthy.

With the phenomena of the passage of a gall-stone everyone is familiar.

It may be taken for granted that the class of cases to which Sir Andrew Clark alludes have no necessary connection with renal insufficiency, or that they are to be regarded as septic or irritative affections, or a combination of the two.

On the one hand, it seems clear from the phenomena of the passage of concretions along the bile-duct, ureter, and urethra, that these passages are very rich in both motor and in sensory nerve-connections. Any irritation in them would therefore be liable to produce severe constitutional disturbance. How great a difference may be produced by change of seat of a lesion is at once obvious, when we compare the constitutional effects of a whitlow with those of the same size of a boil on the chest. It seems reasonable to presume, therefore, that severe irritative continued disturbance may be produced by continued irritation in the urethra.

A curious fact illustrating the extreme sensitiveness of the region where the urethra enters the bladder is the shiver which many people experience when about to micturate. We call to mind also that, with stone in the bladder, the close of micturition is attended with pain at the point of the penis.

Again, constipation, especially after defæcation, often leaves a slight burning feeling in that region, attended with excitation at the point of the penis, not unattended with more or less sexual reflection. These and other similar well known facts suggest to us the proximity of the sexual centre to that regulating the neck of the bladder, but they also remind us of the great sensitiveness of this portion of the urethra. Of the powerful impression which is sometimes produced by the passage of a catheter we are at once reminded when we see, as we occasionally do, men get faint or become sick when the catheter is passed, even in the absence of acute urethritis.

On the other hand, some of the cases referred to are probably septic, and due to septic materials lodged in catheter-abrasions. Such cases would be liable to occur in tender states of the prostate gland, like the third case I have mentioned. It is clear, at any rate, how necessary it is to employ a catheter scrupulously cleansed, both inside and out, and to pass it without the employment of force.

One remark of Mr. Savory's, in the course of the debate, struck me greatly. He said, "I am also sure that in many of these cases the kidneys are not affected in the ordinary way, that is to say, in ways corresponding to the description which we get in certain works on diseases of the kidney."

It seems reasonable to regard it as likely that the nervous connection between the kidneys and the rest of the urinary track is close, so that a shock impinging on any part of the urinary track, while it radiated over the rest of the system, would light with exceptional force on the kidneys.

In Dr. Sanderson's second case, although for a day or two before death the urine was smoky and albuminuric, there was no evident disease of the right kidney. Doubtless the microscope would have revealed catarrh. In another case, in which I lately performed a *post mortem* examination, where a small tumour of, I believe, a harmless nature had been removed from the urethra a few years before, the bladder was but slightly affected; one kidney was dotted all over with little patches of pus, the pelvis containing a good deal; the other was atypical large white kidney. There never was any dropsy. We are all familiar with the so-called extension of inflammation from the bladder along the ureters to the kidneys. I have such a case now where extremely little urine is passed. There is cystitis, and albuminuria out of all proportion to the white corpuscles. There is great pallor, but no dropsy. I have found no casts. Whether this be taken as a case of nephritis or not, such cases are common enough.

Now, it is very doubtful whether the disease of the other kidney in the first class is caused by overwork, or in the second by extension. It is at least as likely to be due to nervous disturbance, propagated along lines of least resistance. My impression is, that cystitis produces a marked influence on the amount of urine excreted, and that urethritis exercises an influence also, though not so great. When we recall, therefore, the great nervous disturbance sometimes produced by catheterism, the great influence of emotions, such as fear,

and of hysterical conditions, on the secretion of urine, and the probability of a close connection between the different parts of the urinary tract, we are inclined to suspect that a temporary derangement of the action of the kidney has something to do with the severity of some of these cases, even though such derangement is not revealed by *post mortem* examination. The effect produced on the kidneys would be dependent on two main factors—the magnitude of the incident shock, and the relative strength of the kidney, or, in other words, the diathesis of the individual. That this is so may be inferred from such facts as the albuminous polyuria which follows section of the renal nerves, the selective incidence of acute nephritis, and the varying occurrence of albuminuria in fevers.

Dr. MacCombie of the Deptford Hospital pointed out to me, about three years ago, that scarlatinal nephritis has a tendency to run in families, two, or even three, of the same family being affected with it. This observation I have had other opportunities of confirming.

As an illustration of a renal phenomenon not usually described in books, the following case may be given.

A lady, aged 41, became suddenly ill after severe exertion in the month of June last. For some years she had been subject to palpitation on exertion. Her temperament was neurotic. She had had two attacks of rheumatic fever. She presented the appearance of one suffering from severe cardiac dyspnoea. The action of the heart was markedly irregular, now going on very fast, now quite slow, now missing one, two, or even three beats. The pulse was soft and fairly full. Urine normal, no albumen. There were no cardiac murmurs, but there could be no doubt of severe cardiac affection, and the prognosis was grave. With absolute rest and other treatment, she recovered so as to be able to get about; and I was not again called to see her till the beginning of November, when it was plain that the end was approaching. Both legs were much swollen. There was no dropsy elsewhere. Her breath had an urinous odour. The tongue was dry and thickly furred. She sank into a hysterocomatose state, and died, as it seemed to me, from uræmic poisoning.

Post Mortem Examination.—The lungs were congested and cedematous. There was a large amount of urinous-smelling fluid in both pleural cavities and in the pericardium. Both cardiac ventricles were considerably dilated. All the valves were incompetent, the aortic least so, their edges being thick and rounded; on the tricuspid were some vegetations. A band of innumerable capillary hemorrhages ran on the surface of the heart along the junction of the left auricle and ventricle and between the two ventricles. The liver was markedly nutmeg. The spleen was apparently normal. The kidneys were apparently normal, peeling readily.

REPORT OF THE BRITISH LYING-IN HOSPITAL FOR 1883.

By HEYWOOD SMITH, M.A., M.D., and FANCOURT BARNES, M.D.,

Physicians to the Hospital.

DURING the year 1883 there were 168 women delivered in the hospital, of whom one died; giving a mortality of 0.595 per cent. Of the 170 children born in the hospital, 94 were males, or 55.2 per cent.; and 76 were females, or 44.7 per cent. There were 8 stillborn children, or 4.7 per cent., of whom 3 were males, and 5 were females.

Among the mothers there were 41 primiparae, or 24.4 per cent.; and there were 127 multiparae, or 75.5 per cent. There were 5 breech-cases, or 2.9 per cent.; 4 deliveries by the forceps, or 3.5 per cent.; one case of cephalotripsy; 4 cases in which the induction of premature labour was had recourse to, in one of which delivery was subsequently completed by cephalotripsy. There was one case of *post partum* hemorrhage which was controlled by ergot and abdominal pressure.

There was one case, sent up to the hospital by Dr. Whittle of Brighton, with albuminuria, ascites, and anasarca. She was delivered naturally of a stillborn male child, which was also affected with ascites and anasarca. The placenta, which was expelled naturally, was hypertrophied and dropsical, and very nearly equal in bulk to four ordinary sized placentae. The patient recovered without any complications, and left the hospital, having only a trace of albumen in the urine.

The morbidity among the mothers was as follows. In 27 primiparae the temperature did not exceed 100° Fahr., or 16.07 per cent.; in the multiparae it did not exceed 100° Fahr. in 91 cases, or 54.1

per cent.—giving a total of 118 cases, or 70.2 per cent., in which it did not exceed 100° Fahr.

In 7 primiparae, or 4.1 per cent., the temperature was over 100° Fahr., but did not exceed 101° Fahr. In 9 multiparae, or 5.5 per cent., it was over 100° Fahr., but not over 101° Fahr.—making a total of 16 cases, or 9.5 per cent., in which it did not exceed 101° Fahr.

In 10 primiparae, or 5.9 per cent., the temperature rose above 101° Fahr., and in 25 multiparae, or 14.8 per cent., it rose above 101° Fahr., making a total of 35 cases only, in which the temperature rose above 101° Fahr.

We draw attention to the fact that, under the continued antiseptic treatment in the hospital, the morbidity among the mothers has decreased each year. The mortality in the hospital remains nearly the same as during the two preceding years, viz., 0.595 per cent. The one death which occurred in the hospital during the year was that of a strumous young primipara, aged 19, whose labour was natural, and in whom no lesion of the genital tract was discoverable.

Among the eight cases in which operative interference was resorted to, no death occurred. The antiseptic system which we have published on several occasions during the past years has been rigidly adhered to in all its details. We observe with satisfaction that during the past year the Edinburgh Maternity Hospital appears, from its published report, to have introduced the plan, originally adopted in the British Lying-in Hospital, of having carbolic spray continuously playing in all the wards.

SURGICAL MEMORANDA.

PLASTER-OF-PARIS JACKET IN CARIES OF THE SPINE.

AFTER reading the two articles in the JOURNAL of December 8th and 15th last, respectively, by Mr. Noble Smith, "On the Treatment of Caries of the Spine," I purposed giving details of several such cases I had treated by plaster-of-Paris jackets, and remarking on some points in which such an appliance, in my opinion, excels not only that described by Mr. Smith, but also the majority of those complicated and expensive instruments advertised and sold by surgical instrument-makers. But Professor Sayre himself replies in the JOURNAL of January 26th, to many of the objections raised by Mr. Smith. So now, in place of detailing any cases in order to show the all but universal (if not universal) applicability of plaster-of-Paris jackets to those cases, I should wish to say a word or two concerning the sources of failure in their use.

And, first, I should wish to direct attention to the fact that, unless every detail is carefully attended to, the comfort of the patient may be sacrificed, and the efficacy of the jacket greatly lessened. 1. The patient ought to have a closely fitting very fine white woollen undershirt (or guernsey), without sleeves, but having shoulder-straps. 2. Great care must be exercised in suspending the patient as directed by Professor Sayre. 3. The bandage is to be carefully applied, being brought well below the crest of the ilium (which gives the jacket a fixed point below), and from this to be carried spirally upwards, with as few reverses as possible. If this advice be followed, that is, the bandage not merely wound round the body, but applied systematically and with an object, we should avoid the unpleasant experience which befel a friend of mine. He applied a jacket to a child, and requested the mother to appear with the child next day for inspection. She did appear, but bearing the child on one arm, and the jacket over the other, and I am afraid he put the blame on the plaster. 4. The patient should be kept suspended till the hardening process is well advanced, thus preventing cracks in the jacket, which only too often are the source of very great discomfort. 5. The jacket should be kept on for a sufficient length of time. If those points were attended to, this, the cheapest and most easily adapted application for such cases, would be shown, by results, to be by far the most efficient.

While resident surgical assistant in the Western Infirmary here, I applied considerably over fifty plaster-of-Paris jackets in cases of carious vertebrae, in various situations and in various stages of advancement; and those patients on whom they were applied reported themselves at intervals of from a fortnight to six weeks. When thus showing themselves, it was a very rare exception to hear of complaints beyond that which could be remedied by the paring of a sharp edge of the bandage; and, if more than this were complained of, the application of a fresh jacket, with increased care in all cases, proved comfortable. In no case have I ever come across a patient who was desirous of discarding a plaster-of-Paris jacket from any real or fancied inconvenience; but the reverse of this has been my experience.