false passage, Mercier invented what he called his "invaginated catheter." It consists of a full-sized metal catheter very slightly curved (see K, Fig. 10), containing an elastic catheter, L, which is turned out by means of an inclined plane, so that when the silver one has gone into the false route, the surgeon can shoot out the elastic catheter.

If no instrument can be introduced, what operation should be performed? I consider tapping the bladder through the rectum to be an objectionable procedure, for it necessitates the patient's confinement to bed with a tube up his bowel, which becomes covered with faecal matter, and is very likely to slip out: the opening is liable to remain as a fistula, and cannot be utilised. The relief afforded by the operation is only temporary, and after the removal of the tube the patient is left in much the same condition as he was before the operation. Aspiration of the bladder above the pubes affords but transient relief. Far better is it to tap the bladder above the pubes with a full-sized trocar and cannula, through which an elastic catheter can be passed into the bladder and retained there.

In connexion with the enlarged prostate cysto-prostatitis naturally obtrudes itself. It is very common to observe a certain amount of chronic inflammation in men who are obliged to use a catheter, which might often, I think, have been avoided if the urethra had been very gradually accustomed to the introduction of the instrument. If a man begins to pass a catheter twice a day from the first, he is very likely to irritate and inflame the urethra; but if, on the other hand, he merely introduce the instrument every other day for the first fortnight, once a day for the second, and twice daily afterwards, the urethra will have time to become accustomed to the frequent intrusion. When there is much deposit of muco-pus the bladder ought to be washed out daily with warm water, for which purpose I know of no apparatus so good as the American one of Keyes. Some cases of chronic cysto-prostatitis resist every means of cure, and are in this country usually left to be broken up by pain and want of rest. In America cystotomy has been established as an operation for such patients, by Willard Parker, Emmett, Gouley, Mastin, &c., the object being to treat the bladder as a suppurating sac, and give it physiological rest by allowing the urine to dribble away as fast as it trickles in. I think that future experience will prove that the incisions of lateral lithotomy are unnecessarily severe for the purpose, which can be equally attained by external urethrotomy, with which operation I have contented myself, and allowed all the urine to run away through a soft tube. It is wonderful to see the immediate relief which such an operation affords; a patient who has perhaps been tormented for years, and has not known a good night's rest, sleeps soundly the night of the operation, having lost all his pain.

I will now for a moment glance at those patients who pass their catheters comfortably twice a day, and have nothing to complain of. Under favourable circumstances they may go on for years, and all is well; but there comes a time in the history of every such patient, if he only live long enough, when the hand loses its cunning or the sight becomes dim, and the catheter is no longer passed with the same skill and ease as of old, some hitch occurs, and the man is beaten. The aid of the nearest doctor is sought, but he very likely fails in so complicated a case. The hospital surgeon is then called in, who probably after some difficulty succeeds. The result of all the combined manoeuvres too often is that cystitis or hæmorrhage carries off the patient. Then, again, there is another set of cases. A man goes on well for some time, but a period arrives when he finds that he has not long emptied his bladder with the catheter before he is again troubled by an urgent call to micturate, and has to use his instrument; the intervals of respite become less and less distant, and the unfortunate man at last finds that half an hour after he has emptied his bladder he is tormented with an urgent desire to urinate, which destroys his night's rest and makes life a burden to him. Now is the time for surgery to interfere and to try and save the unhappy patient from the doom which so surely awaits him. I consider that whenever auto-catheterism is becoming increasingly difficult or frequent, the time for action has arrived, and must not be delayed. Far better would it be if the operation were not postponed till the patient's strength be undermined, but that action were taken on the earliest indication of coming trouble. There are three different operations open for selection. 1. There is the supra-pubic puncture for the purpose of establishing a new route, allowing the urethra to fall into disuse. 2. Puncturing the urethra at the apex

of the prostate, thereby giving the patient a second meatus externus. 3. The excision of the obstruction as invented and practised by Mercier. Of all these operations the last is the only one that removes the cause of the trouble; hence it is theoretically perfect in its conception. Hundreds of men now alive to whom Mercier has restored the faculty of free and natural micturition, prove that the operation is as good in execution as it is in theory. The alleged danger of hæmorrhage has not been sustained by experience, and sinks into insignificance when compared with the great results achieved. There are other French surgeons besides Mercier who have tried the operation, and reported most favourably of it; curiously enough, I believe, it has never been performed in this country. The instruments for incising the muscular valve and excising the prostatic one are respectively represented at N and M, Fig. 10. Supra-pubic puncture has its advantages and disadvantages; it is the only one of the three operations eligible in the event of the surgeon not being able to pass any instrument along the urethra into the bladder; its special risk is urinary infiltration causing peritonitis. The operation which I have been in the habit of performing is that of opening the membranous urethra just in front of the prostate, in order that the patient may have direct and easy access to his bladder. It might at first sight appear that in these cases catheterism from the perineum would offer no advantage over that manipulation performed in the ordinary way down the penis, but this is not so. What is it that sometimes renders catheterism difficult, and at times impossible? The trouble is not directly caused by the third lobe, but the general enlargement of the prostate converting the sub-pubic curve into an angle which, if it be very "accentuated," as the French call it, may render catheterism impossible. In the normal urethra the course of its deeper portion is a gentle curve; but when the prostate is much enlarged it is greatly elongated and carried upwards and forwards, forming a sharp angle with the membranous part, which is fixed between the layers of the triangular ligament. In such cases, if an opening be made into the membranous urethra and a catheter introduced, it will glide into the bladder with the greatest ease, *as it has only to mount an inclined plane*. So easy is catheterism from the perineum that a child or nurse may perform it, and it is a painless and bloodless procedure. I have seen remarkable instances in which catheterism before the operation was painful, difficult, and bloody, but after the perineal puncture had been established it was free from all the above annoyances. A point not to be lost sight of is the more effectual drainage afforded by the perineal opening as compared with the supra-pubic. This is important, for every man who is obliged to use a catheter may be looked upon as having a reversionary interest to stone in his bladder.

ABSENCE OF PATELLAR TENDON-REFLEX IN A CASE OF PARALYSIS FOLLOWING DIPHThERIA.

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A GENTLEMAN, aged thirty-seven, applied to me on July 4th, 1879, on account of numbness in his fingers and feet. He had been in England only a fortnight, and the numbness had commenced shortly before landing in this country.

It appeared that he had left India on May 4th. Two or three weeks before his departure he complained of a soreness in his throat, which was cauterised by his medical attendant, who told him at the same time that there was a diphtheroid throat prevalent among the natives, several of whom had been in hospital under his care. The patient's throat got worse and became ulcerated, yet for about a week or ten days he continued to do duty. But he became gradually much weaker, and when put on board ship on May 4th he was not expected to live. On the voyage, however, he recovered completely, and landed in England feeling quite well, except for a feeling of numbness in his fingers, which had commenced about three weeks after the

throat had recovered. It was only since his arrival in England that the numbness had extended to his feet.

On examination I found no objective signs of disease. The patient looked well, and had no complaint to make of his general health. There was simply, he said, a little feeling of numbness in the ends of the fingers, which made it difficult to pick up small objects and button his clothes, and in the feet a similar sensation. His urine contained no albumen. The ophthalmoscope showed no change in the fundus oculi. His sight was perfectly good, and he had no difficulty in accommodation. There was no history of syphilis. The patellar tendon-reflex was normal in each leg.

On July 7th he complained of some want of power of grasp. The muscles of the forearms showed a normal reaction to induced currents.

A fortnight later (July 23rd) I saw him again. The feet and hands, he said, now felt perfectly dead. In walking he would catch his left foot. The symptoms did not affect any part of the head or trunk, but were entirely confined to the four extremities, in which there was considerable loss of cutaneous sensibility and a certain loss of power. As an illustration of the loss of sensibility in his hands, he told me that he had taken his cheroot-box out of his pocket with the full conviction that it was his purse. He had the greatest difficulty in dressing himself.

The sensibility for temperature was to a great extent retained, and he could tell the difference between a linen and a woollen material, not by the texture, but by its power of conducting heat. There was, however, some delay in the appreciation of heat impressions. He told me, for example, that he had to leave his hand in water a few seconds before he could be sure that it was of a proper temperature to use to his face.

He was weak on his legs, so that walking made him feel tired and sick, and he could not go downstairs without keeping hold of the balustrade. I noticed now that he staggered a little in his walk, and when he stood with his feet together, and the eyes were closed, he swayed about. The numbness was described as having now extended up the back of both legs.

I could find no very notable defect of electrical excitability in the muscles of the forearms, but the response in each was alike, and it is not easy therefore to be sure on this point. Examination of the urine, as well as by the ophthalmoscope, continued to give negative results. There was no difficulty in swallowing, the sight was still unimpaired, and the functions of the bladder and rectum remained normal. The patient looked well, and said that he felt perfectly well, except in respect of the symptoms described. The patellar tendon-reflex was now found to be absent from both legs.

After this I lost sight of the patient, who was living at some distance from town, until a few days since. He tells me that he quite recovered about the end of August—i.e., in about a month after his last visit. Examination now showed the patellar tendon-reflex present and normal in each leg.

The treatment consisted in the use of faradism, and the administration of iron and arsenic.

There was a complete absence in this case of many symptoms which are so commonly present as to be almost pathognomonic of diphtherial paralysis. The voice had never acquired any nasal tone, nor was there any difficulty in swallowing, and fluids never regurgitated. The sight remained throughout perfectly good, the smallest type being able to be read at a normal distance, so that the accommodation of the eyes, which rarely escapes in the paralysis following diphtheria, was never in this instance affected. The numbness described was confined to the extremities, no part of the head or trunk being the seat of it at any time.

The disappearance of the patellar tendon-reflex whilst the patient was under observation, is interesting. It furnishes proof, if such were wanting, that this peculiar paralysis is dependent, when it affects the extremities, upon a lesion either of the spinal nerves or in the substance of the cord. A cerebral lesion would not account for this symptom. A lesion of the posterior roots of spinal nerves alone would be sufficient to interrupt the reflex; but the fact that there was loss of power as well as anæsthesia, shows that, if the lesion were not one of the substance of the cord, it must have involved either the trunks of the mixed nerves or the anterior as well as the posterior roots.

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ON POLYPUS AND OTHER MORBID GROWTHS IN THE NOSE:

THEIR RADICAL TREATMENT BY THE ELECTRO-CAUSTIC METHOD, AND THEIR CONNEXION WITH ASTHMA.¹

BY J. L. W. THUDICHUM, M.D., F.R.C.P.L.

IT is my intention to bring under the notice of the medical profession, in as brief a form as possible, some general results concerning the treatment of polypus and other morbid growths in the nose, derived from practical experience extending over more than 300 cases. While in the early days of my practice I operated with the forceps like everybody else, and even had some permanent successes with it, I became convinced about sixteen years ago that this instrument had to be abandoned, and I substituted the electro-caustic platinum-wire noose for it. My first publication on this subject was made in THE LANCET fourteen years ago. My further experience was published in an essay, of which the third edition was published in 1877 by Messrs. Longmans.

The immediate objections to the use of the forceps are that it causes great pain on mere introduction, and the view into the nostril is immediately closed. It is then next to impossible to open the blades sufficiently to grasp more than a thin end; in the best case the stalk of an anterior polypus. Consequently the rest of the polypi are pushed backwards or upwards in the nose, and jammed into the narrow recesses of the upper nose. At the same time there is bruising of the mucous membrane over the ascending ramus of the upper maxillary bone, and bruising and tearing of the Schneiderian membrane of the turbinated bone and septum. Then there follows much bleeding, secondarily ulceration, and, in some cases, gangrenous destruction of ill-treated parts. But worst of all is the inefficiency of the result. If a passage is produced it frequently only lasts for a few days, and soon the nose is closed again. Only few cases of simple form—e.g., in young women—are freed and permanently cured.

Worse than these immediate evils are *the permanent evil results of forceps operations*. In some cases I have observed amongst such results, closure, partial or entire, of the nostril (atresia). In two cases, one male, the other female, the closure was complete; in another case there remained only a small opening through the membranous formation sufficient to admit a probe. In a greater number of cases the injury to the surface of the nasal cavity causes membranous adhesions between the turbinated bones and the septum. When the forceps is used by strong hands, a good deal of tearing and breaking of the turbinated bones is effected, ending in their dislocation. This disorder then heals up, and causes great discomfort. In such a case the lower turbinated bone lay against the septum and caused constant pain. I removed it entirely, and the patient was quite restored, the pain ceasing immediately. In quite a number of cases the forceps produces fracture of either the cartilaginous or bony septum. In two such cases, one from the antipodes, another from a northern county, there was a history of hæmorrhage, in consequence of which the operation was left uncompleted and the nose plugged; then followed gangrene of part of the septum, with perforation and loss of substance. These illustrations suffice to explain the preference for my new method expressed by all patients who have experienced the forceps.

The electro-caustic method of operating on nasal polypus I was the first to use. Even Middledorpf, the inventor of the electro-caustic method of operating, did not operate for nasal polypus; an illustrious member of our profession, being himself afflicted with polypus, visited Middledorpf for the purpose, as he hoped, of being operated upon by electro-cautery; but he was disappointed, and operated upon with the forceps.

The advantages of my new method over all former methods are that it is greatly superior in results; that there is no, or

¹ A paper read before the Medical Society of London on March 18th, 1880.