

which, even when judged by us after more than a fortnight's enjoyment of the well-known hospitalities of M. Saratz at Pontresina, received our most favourable verdict; the amusements liberally provided for the guests; the advantages of medical attendance; the ready approach to it by way of Italy, and the ready descent to the Italian lakes or the Riviera for change or interlude—all these advantages make Maloja invaluable as a general winter sanatorium. To those who have to live for weeks in a foreign hotel, as a distinguished Englishman said to me who had spent ten weeks at the Maloja, a number of handsome and spacious rooms and large corridors are not only airy and wholesome, but also a source of pleasure to the eye and of variety to the mind, and they prevent the time from hanging so heavily as it may do in the one relatively small saloon of an ordinary hotel. I need scarcely say that I have no interest in the Maloja Hotel direct or indirect, save that general interest which we all must have in the prosperity of a great means of cure. So little advantage, however, has been taken hitherto of the winter season of the Maloja that the owners have decided to close it after this winter unless the numbers largely increase. This, I think, would be almost a calamity, for I am sure the place has but to be better known to secure a large winter population of travellers for health, recreation, and amusement. Equally or more accessible is the pleasant winter house at Grindelwald, lately built by the well-known Boss family. This house is spacious, and well warmed and ventilated, and a very agreeable company is to be found there in January, February, and March. Grindelwald, however, is not suitable for cases of phthisis as a rule, and the great mass of the Eiger intercepts much of the sun in the earlier winter; but in the second half of the winter visitors needing a rest in tonic air, or needing only a delightful holiday, will find themselves very happy and well cared for at the Bear. A large number of invalid, delicate or elderly persons find these Alpine resorts too cold, but, on the other hand, find the Riviera too warm and relaxing, its climate too exciting or its treacheries of wind and sun too trying. Many such patients I send up to Grasse, and with much advantage. But I think we ought to hear more and to learn more of the Italian lake country in winter, where, I believe, many patients of an intermediate class could derive more benefit than from either of the two former regions. To my regret, I find year after year that I cannot spare time in winter to visit these parts and test their qualities for myself. I have, however, during repeated autumn visits learned many particulars of the winter climate from disinterested persons and from private residents. Unfortunately the hotels there are built for summer visitors and for summer pleasures, and are therefore built near the water. There are, however, beautiful and sheltered sites on higher slopes where hotels could be built for winter and spring visitors did the demand arise. Como is a little too narrow and mountainous for safe spring weather, but in or near Varenna sites for charming winter quarters might perhaps be found. Pallanza, on Lago Maggiore, is well known, and both the Grand Hotel and the Garoni are more raised above the water than are Cadenabbia, Bellagio, or Ville d'Este on Como. The large hotel at Locarno is one of the most comfortable in Switzerland, and is well up on the slopes, but I can never get rid of a sense of distrust of the great delta of the Maggia, which lies not very far below it. Perhaps, as agreeable winter climates, the best resorts would be Pallanza, on Lake Maggiore; and Salò, Gardone, or Gargnano, on Lake Garda. The Bay of Salò is delightfully situated; the lake scenery is perhaps the finest in North Italy; and the hotels at Salò and Gargnano, though of the second class, are by no means bad. At Salò the lemon-tree grows freely, and this tree is perhaps the best test of climate in Europe. I cannot but believe that, were these places better known, they would attract many visitors in winter and spring. As the springtime opens, the excursions up the valleys, which are of grand and exquisite beauty and flowery as gardens, would be full of charm and enjoyment.

The reader will, I trust, accept these rough notes as they are—as disjointed reflections, dotted down at odd moments while travelling in Switzerland and North Italy. Some of the points here incidentally raised may receive a more careful handling on some future occasion, either by myself or by others more competent to treat them.

THE VALUE OF ANTISEPTIC PRECAUTIONS IN INTERNAL URETHROTOMY.¹

By W. BRUCE CLARKE, M.B., F.R.C.S.,
SURGEON TO THE WEST LONDON HOSPITAL, ASSISTANT SURGEON TO
ST. BARTHOLOMEW'S HOSPITAL, ETC.

WHEN a stricture which has been for some time subjected to dilatation becomes gradually more and more resilient, the catheter is at last so often required that both the patient and the surgeon are only too anxious to adopt some further and more efficacious treatment. There is no operation which is apparently so simple in performance, or so speedy in its results as internal urethrotomy; but, with all its advantages, this operation has never been universally accepted by surgeons, and it is not very difficult to discover the reason. It must depend either upon the immediate dangers of the operation itself, or upon the uncertainty which attends its ultimate results. To both of these considerations must be credited a share of its disfavour.

Let us briefly consider the second objection first. It is urged as an objection to internal urethrotomy that cases in which it has been performed afterwards come under treatment on account of the results of the operation being unfavourable. Is this a fair objection to the operation? I confess that I do not think so. As well might we object to dilatation because it requires to be repeated oftentimes for years. So good a surgeon as Mr. Reginald Harrison, who has had a large experience in urethral surgery, states his objections to the operation in the following words: "Some of the worst cases of stricture that I have had to treat have been those where internal urethrotomy has been performed."² If we consider for a moment the conditions of a urethra which is about to be submitted to internal urethrotomy, we shall at once see the fallacy of such a statement. Had anyone proposed to treat all strictures or even the great majority by such an operation, there would be good reason for such an outcry. But it is only the worst cases which are ever submitted to the operation, and unless it is followed by careful dilatation at the time, and by regular instrumentation afterwards, a rapid recontraction is sure to occur; and instead of an enlarged urethra with an easy and manageable stricture, contraction again ensues, and the "cicatricial splice," as it has been termed, instead of being gradually in great part absorbed and remaining easily dilatable, becomes the seat of fresh inflammation, and gives rise to those cartilaginous cicatrices which are too often looked upon as a necessary accompaniment of internal urethrotomy, instead of being an untoward result of its gross mismanagement by the patients. Hence it is that amongst private patients internal urethrotomy yields much better results than it does in hospital practice.

The other objection to the operation is based on the serious constitutional disturbances which are liable to follow it, and from the fact that in some cases death may result from it. I will again quote Mr. Reginald Harrison's remarks on the subject. Speaking of the operation, he says: "To divide a band of cicatricial tissue which narrows the urethra down perhaps to the size of a pin's head, so that in a moment it will permit the introduction into the bladder of a full-sized bougie, and at the same time be conscious that this can be accomplished with the same precision as if done on the external surface of the body, seems at first sight to offer the most rational method of treating this affection. And so undoubtedly it would prove to be were it not open to two objections, which to my mind weigh seriously against this proceeding. These are: first, that the operation is almost invariably followed by the development of rigors and fevers, which in some instances have proved fatal when least expected; and, secondly, because the operation has not been followed by permanent benefit." With this latter objection we have already dealt so far as it concerns us at present. Let us turn to the first objection, and consider if there is no means of obviating the rigors and rise of temperature.

Why is it that such an operation should be followed by such dangerous and even fatal symptoms? Though I am

¹ Read before the Harveian Society, May 17th, 1888.

² Surgical Disorders of the Urinary Organs, third edition, p. 3. Churchill, 1887.

not inclined to condemn the ordinary operation of internal urethrotomy as severely as does Mr. Harrison, yet I can confidently assert that I know of no operation in the whole range of surgery which, as ordinarily performed, is at the same time so slight in character and so severe in its results. By many surgeons the rigors and rise of temperature have been ascribed to a nervous fever or to other vague causes; in other words, they have been supposed to belong to the urethra, and to be a special property of it. But they do not occur after all operations on the urethra. It is rare to have a considerable rise of temperature or rigor when a stricture has been treated by external urethrotomy; indeed, although I have witnessed and performed a considerable number of such cases, I have never come across one in which a moment's anxiety for the patient's life ever crossed my thoughts. The dangers of internal urethrotomy are exactly the same as the dangers of catheterism, only they are increased ten-fold, nay fifty-fold. They depend solely on the liability to the introduction of poisonous matter into the patient's body at the time of the operation, and, as we shall see shortly, this condition can be readily counteracted, so there is no reason why operations on the urethra should not be as free from danger as are those on other parts of the body. The truth of this statement admits of proof both clinically and as the result of experiments. But, in the first place, it may readily be conceded that it is quite possible to find a source of infection in the patient's own body, as the following case will prove.

A few months back I was asked to see a case in which there had been stricture with retention. To relieve the immediate and urgent symptoms a catheter was passed and tied in, causing, as is often the case where the urine is prone to decomposition, a slight attack of urethritis. The catheter was withdrawn after forty-eight hours, and micturition was sufficiently free to dispel all anxiety on that score. Two days later, as a preliminary to further treatment, the patient being still confined to bed, the orifice of the urethra, which was much contracted, was divided with a bistoury. A few hours after this a rigor supervened, and complete suppression of urine, with vomiting, a temperature rising to 104° , a furred and dry tongue, and a pulse of over 120. When the suppression had already lasted for nearly thirty-six hours, I saw the patient for the first time; there was still some purulent discharge from the urethra, and it was tender to the touch in parts. A hot bath and a purge had already been administered; I therefore ordered half an ounce of the infusion of digitalis and wet cupping to the loins, to the extent of not more than two ounces. Twenty-four hours later the urine had again passed in full quantity, and the patient, though weakened by his attack, gave no further cause for anxiety. It is exceedingly rare to find any untoward symptom follow the division even of a penile stricture, but the incision of the urethral orifice is usually regarded, and with good reason, as absolutely free from danger. I have mentioned the case, however, not on account of its danger, but as an instance of the importance of not neglecting the condition of the patient's urethra at the time of operation. Had the urethra been thoroughly irrigated previously with a weak solution of sublimate (1 in 2000, or even weaker), the chances are that all would have passed off well, and the incision of the orifice have turned out to be absolutely innocuous.

The experimental side of the question has recently received great attention at the hands of Bouchard, by means of experiments on the lower animals, and his views on the toxic properties of certain constituents of the urine have been largely adopted by Mr. Reginald Harrison.

On the other hand, there is ample evidence of a clinical nature to show that healthy urine is not, even in the peritoneum, a noxious fluid until decomposition has had time to take place. If a kidney or bladder is ruptured and the urine finds its way into the peritoneum, some hours, at any rate, may elapse before acute symptoms set in; and if the urine is in the meantime removed, and its further escape from its normal channel is prevented, complete recovery may take place.

Now, whilst I will readily admit that there are instances in which self-infection takes place after internal urethrotomy, it is (as, I think, the following cases will show) at least far more likely that in a great many instances it is the instrument which is at fault. Whatever the form of the urethrotome, there are many corners and crevices in which putrid urine may lodge, and which, unless the greatest possible care be used, can never be thoroughly and effectually

cleaned. And there is a still further source of infection in the catheter which is passed after the urethra has been divided, more especially if it is allowed to remain for any great length of time in contact with the urethral walls.

For several years past I have been gradually coming to the conclusion that most, if not all, febrile attacks after internal urethrotomy are as readily preventable as after any other surgical procedure, provided cleanliness and good drainage are always ensured, and the wound is so handled as to prevent absorption of decomposing or decomposable urine from taking place. These precautions are carried out as follows. 1. The urethra is rendered as pure as possible by previous irrigation, and for several days beforehand, both with hot water and also with corrosive sublimate (1 in 2000). If there is any reason to suspect advanced kidney disease, or the urine that passes should be very foul, the stricture must be previously dilated a little temporarily so as to allow of a freer discharge of urine and to get it into a more healthy condition. I have come across more than one case in which, from the condition of the urine and the general aspect of the patient, I have selected external urethrotomy as the more preferable and safer operation. 2. The instrument which is to be employed should be taken to pieces and carefully scrubbed in soda-and-water, and soaked in carbolic acid (1 in 20) for at least ten minutes before the operation, and only put together at the last moment just before it is to be used. 3. When the urethra has been freely divided, a full-sized catheter should be passed into the bladder and retained there for twenty-four hours. The advantages of retaining a catheter are several: the wound is protected from contact with the urine, because the blood clots round the instrument at the site of the incision; and for the first twenty-four hours usually no urine trickles round the catheter, as it invariably does if it is retained much longer; any tendency to hæmorrhage is checked, and the edges of the wound are prevented from uniting by first intention. The catheter which is used for this purpose should either be a new one or should be allowed to soak in carbolic acid (1 in 100) for at least twelve hours previous to the operation. If a much stronger solution of carbolic is used, even for a short time, the rubber will be rendered rough on its surface, and so prove a source of too great irritation in the urethra.

I have treated fifteen cases by this method, and I know of some four or five others in which the precautions that I am advocating have yielded excellent results, so that twenty cases at least have been successfully carried out on this plan. With these precautions, I have generally, I think I may say invariably, employed a Teevan's urethrotome, and the strictures which I am referring to have in all cases been situated in deep urethræ. In one or two instances, as will appear when these cases are considered individually, there have been anterior strictures in the penile urethra as well. In these cases the anterior strictures were divided on a separate occasion, either with a bistoury or with an Otis urethrotome if they were beyond the reach of the knife. I have not included the results of the division of these anterior strictures in my paper, for two reasons: firstly, because it is generally admitted that the division of these strictures is rarely if ever attended by any severe sequelæ; and, secondly, because I preferred to take the series of cases of stricture which were all located in about the same part of the urethra, hoping by such means to establish with greater ease the need for and the value of some such precautions as I have just alluded to. The following are the notes of some of the cases to which I am referring:—

CASE 1.—A. L.—, aged forty-four, came under my care at the West London Hospital in March, 1884, stating that he had suffered from stricture for some five or six years. His urethra was carefully examined with bougies à boule, and with an Otis urethrometer, with the following result:—The orifice admitted No. 11 English catheter; at $1\frac{1}{2}$ in. the urethra was constricted to No. 8 English; at 4 in. the stricture admitted No. 9 English; the deep stricture would not admit No. 4 English. On March 20th the anterior strictures were divided with bistoury and urethrotome, but no catheter was retained; the bleeding was insignificant. For several days afterwards a full-sized bougie was passed daily down to the bulb, so as to prevent the edges of the strictures from again uniting at once. A week later, the deep stricture was still in the same condition, but the patient was desirous of leaving the hospital for a short time, and it was arranged that he should come at intervals for

dilatation. In May of the same year he was again admitted, as but little progress had been made with dilatation, though he had attended weekly. No. 5 English catheter was passed into the bladder, but the urine was thick, and often foul and ammoniacal. Under these circumstances I tried continuous dilatation, and tied in No. 5. His temperature rose the same night to 100.2° , and he had a rigor, so that the catheter was withdrawn a few days later; his bladder was washed out as well as it could be through so narrow a urethra, and this process was repeated for several days until the urine was sweet. The urine was then withdrawn, and some boracic acid (fifteen grains to the ounce) injected into the bladder and allowed to remain there for several hours. The contents of the bladder were again withdrawn, and two more ounces of boracic acid introduced immediately before the operation. The stricture was divided, though not without difficulty, as it was very tough and resistant. A No. 13 English catheter was then introduced with ease, and the bladder well washed out with hot water and then with boracic acid, after which No. 13 was tied in for twenty-four hours. The temperature rose the same evening to 99.4° , but fell the next day to 98.6° , and did not rise afterwards. At the end of a week he got up, a catheter having been passed on the sixth day, and a few days later he left the hospital. I saw him six months later in perfect health, and cautioned him to pass a No. 12 catheter, with which he was furnished, once a fortnight.

CASE 2.—E. T—, aged forty-seven, was sent to me by Dr. Jeken, of Eltham, to see if the stricture could be treated by electrolysis. He first came to me in August, 1886, stating that he had had a stricture for more than twenty years, and during the last three had rarely micturated excepting through a catheter, usually a No. 4 English. On Oct. 3rd, 1886, I commenced the treatment by electrolysis of his stricture, which was situated a little over three inches from the urethral orifice, and was nearly an inch and a half in length. I felt doubtful as to the result of electrolysis in so severe a stricture unless the patient would consent to lie up for some period. This he was unable to do, and so I advised him, after a few sittings with electrolysis, to submit to internal urethrotomy. On April 15th in the same year I divided the stricture freely, and, after washing out his bladder well, tied in a No. 12 English catheter for twenty-four hours. He had no rise of temperature at all, and the urethra, which had been tender to the touch and very much thickened previously, gradually became less so.

CASE 3.—E. C—, aged thirty-five. This man came under my care at St. Bartholomew's Hospital in April 1887. He had been suffering from a stricture for some years past, and I had divided his meatus a year or two before. He had only one stricture—viz., in the deep urethra; but whenever attempts had been made previously to dilate it, they were always attended by considerable rise of temperature—at least, so it appeared from his history, as he said he was always very ill, and had the shivers when a catheter was tied in. The deep stricture admitted No. 2 English catheter. As he was very anxious to get away again as quickly as possible, I divided the stricture forthwith, washed out the bladder thoroughly with sublimate solution (1 in 3000), and afterwards with hot water at a temperature of 105° . No. 12 black catheter of the English gauge was tied in for twenty-four hours. Three days later he left the hospital, coming back to have an instrument passed at intervals.

I have referred specially and fully to these three cases, because two of them were attended by rise of temperature after catheterism previous to the operation of internal urethrotomy; and yet no rise at all took place in one, and a very insignificant one in the other. In the third case the stricture was of unusual severity, and the same good result was produced by the operation. It would be tedious to go *seriatim* through all the symptoms, course, and treatment of the remaining twelve cases individually. It will, I think, suffice if I say that I have never but once had a rigor after these operations, and that was not attended by any severe constitutional disturbance, and even in this case the temperature only rose to 101.4° on the second evening after the operation, and had fallen by the following morning to normal, whilst the patient was up and about five days later.

From such results as these, I may reasonably claim that internal urethrotomy should no longer be regarded as a dangerous operation. With so many possibilities for danger around, when incisions are made into an unhealthy urethra, it is impossible to claim for such operations as these, or,

indeed, for any others, an absolute immunity from danger; but, at least, it appears to me to be clear that, when a rigor and rise of temperature supervenes some few hours after urethrotomy has been performed, perhaps just after the first attempt at micturition had taken place, the constitutional disturbance which follows must be ascribed to septic poisoning from the urethra, and not to obscure nervous influences over which at present we have no complete control.

Harley-street, W.

ON THE OCCURRENCE OF PYREXIA, SHIVERINGS, AND PYÆMIA IN CASES OF MALIGNANT DISEASE.

By JAMES FINLAYSON, M.D.,

PHYSICIAN AND LECTURER ON CLINICAL MEDICINE, GLASGOW WESTERN INFIRMARY; PHYSICIAN TO THE GLASGOW HOSPITAL FOR SICK CHILDREN, ETC.

WE are in the habit, and no doubt rightly, of thinking of malignant disease as characterised by an absence of pyrexia. On the other hand, in inflammatory affections we look for a more or less persistent elevation of temperature, and when suppuration occurs rigors are of great diagnostic importance. In many cases of swelling or tumour in the abdomen, we are often at a loss to know whether the disease is malignant or inflammatory, and in doubtful cases we are naturally inclined to hope, from the presence of feverishness, and especially from the occurrence of rigors, that we have to do with an inflammatory affection going on to suppuration. No doubt the occurrence of feverishness may be explained away by the presence of some intercurrent inflammation appearing in the course of the malignant disease; and towards the end of the case, just before death, this is all the more likely to happen. Or it may be that some accident at the beginning of the case determines the occurrence of rigors, as these seem specially liable to occur in abdominal affections. Thus in the case of a gentleman affected with intestinal obstruction, due to an epithelioma in the descending colon, whose illness I watched with the greatest care and anxiety during a prolonged and fluctuating course, the very first symptoms were those of a feverish attack, with pretty high temperature, closely resembling the onset of enteric fever, without, at that time, either local pains or any intestinal symptoms. This feverish illness lasted from Nov. 6th to the 13th; after this he was supposed to have recovered pretty well. But on Dec. 9th he had a rigor and began to have sickness and vomiting, with abdominal pains; indeed, this was the first of his series of attacks of obstruction of the bowel, which culminated in his death on March 3rd. Yet in this case we found nothing, even at the post-mortem examination, to explain the feverish symptoms or the rigor; the preliminary feverish attack was doubtless in some way connected with the epithelioma, and the rigor was no doubt due to the sudden obstruction. With such a history of the onset of the illness, one was naturally led to think of inflammatory disease, although in the course of the case the cancerous theory was the one adopted.

I have seen, in the Western Infirmary, a case of hepatic disease with feverish symptoms, and with bulging or swelling of the liver to such a marked extent as to lead the surgeon in charge of the case to perform an exploratory operation in hope of finding an abscess; when, however, the liver was exposed malignant deposits were seen in the liver, and these were found at the post-mortem examination to be secondary to a large sloughing ulcer of the stomach, with an affection of the pre-vertebral glands.

A more striking case of persistent pyrexia associated with jaundice was lately seen by me, when it was operated on by my colleague, Dr. Hector C. Cameron, at the Western Infirmary. The man had been transferred to his care from one of the medical wards to have his gall-bladder opened, as it was hoped that the obstruction might be due to a remedial condition. The fever had been very persistent for about ten weeks, of a remittent type, often reaching 102° F. or more, but not associated with rigors. The operation was performed on Dec. 5th. The gall-bladder was found to be much distended, but no stones were present, and