AN URETHROTOME FOR INCISING NARROW STRICTURES.

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HITHERTO, among the variety of instruments that have been constructed for internal urethrotomy, none, so far as I know, can be used for strictures through which a No. 6, or, at most, a No. 4 catheter cannot be passed. The treatment of such cases, whatever method of dilation be selected, does not usually present much difficulty; but, with smaller passages, the difficulty of introduction and the amount of suffering to be contended with have induced me to seek for some means by which a narrow stricture, when an instrument has been passed through it, may be at once enlarged to the normal capacity. This may be done by *internal incision* or by *divulsion*; which of the two proceedings should be adopted in any given case, depends upon certain points that are now pretty well agreed upon.

The instruments which I have here are both manufactured and, to a great extent, devised by Mr. Coxeter, who has exerted much skill in constructing instruments to carry out my suggestions—one for cutting, the other for breaking through, the stricture. Before introducing the instrument for enlarging the stricture, the distance of the contraction from the meatus urinarius should be ascertained by passing an olive-headed bougie with a slender graduated stem. This being done, both instruments are passed in the same manner. A guide bougie of fine whalebone, about one-fourth the calibre of a No. 1 catheter, is passed through the stricture to the bladder; should the operator be in doubt if he have reached the bladder, a fine silver catheter, having its end tunneled with an eye, is threaded, and, thus guided, the catheter is slipped along the bougie and through the stricture till the bladder is reached. Urine then runs through the catheter, and makes it certain that the instruments are in the right track, when it may be withdrawn, leaving the bougie *in situ*. However, in most cases, this precautionary exploration may be omitted.

A. The knife. B. The projection to ascertain the posterior limit of the stricture.

The next step is to pass the enlarging instrument along the guide in the same way. The incisor consists of a slender grooved sound of steel, with the ordinary curve, and provided with a tunneled end. In the groove runs this little rod having a blunt end fixed to it by a joint. When run along the groove of the sound, the jointed end and rod are quite concealed until they reach a point $6\frac{1}{2}$ inches down the shaft. Here the groove becomes shallow and ceases; thus, the jointed end is thrown out and projects about one-tenth of an inch beyond the surface of the sound. (See B in the figure annexed.) It thus forms a little catch on the sound, which will travel along the urethra until it reaches the stricture, against which it will be caught. After the grooved sound has been passed along the guide, through the stricture, the little rod may be run down, and its end made to project into the urethra behind the stricture. By drawing forwards the sound thus armed, the posterior limit of the stricture is ascertained; the anterior limit is already known. The little rod is then withdrawn and replaced by another which carries, instead of a blunt point, a knife attached by a joint in the same way; this knife, concealed in the groove of the sound, travels down until it has reached the place

where the groove grows shallow. (See A in the figure annexed.) This termination of the groove being already carried beyond the posterior limit of the stricture, the knife is thus made to project to a distance regulated by a screw at the handle against the floor of

the urethra; and, if the sound be drawn forwards, the knife cuts its way until the whole stricture is divided. When the anterior limit of the stricture is reached, the knife is again brought within its groove, and the sound is withdrawn. The knife projects half an inch as a maximum, but, by adjusting the screw, can be set to any less distance. The sound, with the knife lying in its groove, is of less calibre than a No. 2 catheter, being between that and No. 1 of Weiss's catheter scale. After the incisor is withdrawn, to make assurance more certain that the stricture is thoroughly divided, the split sound of the wedge-dilator may be passed, and the wedge which corresponds to the natural capacity of the urethra No. 14 or 16 may be run through the divided stricture.

This wedge-dilator, which I had the pleasure of showing to the profession at the Plymouth meeting, acts on the same principle as that so well known and so successful in the hands of Mr. Barnard Holt. It differs in being of simpler construction, being a wedge at the end of a rod, which, being pushed between the blades of a split sound, separates them to the required extent, and thus splits the stricture it passes through.

My dilator can be made as small as a No. 1 $\frac{1}{4}$ catheter, is easily passed along the canal, and, when through the stricture, the wedge requires very little force to separate the blades; for the surfaces of friction are together little more than half an inch in extent, instead of being the whole distance traversed by the instrument both within and without the separating tube, as in Mr. Holt's dilator.

At the beginning of the paper, I said that, when forcible enlargement is selected, the rules that influence the adoption of a cutting or a splitting instrument are tolerably well known. I may, perhaps, be allowed to recapitulate the most important.

1. All contractions in front of the bulb—that is, in the penile part—should be cut, not split, because cutting causes less cicatricial tissue to be formed than does splitting; this is important where the layer of erectile tissue is thin and easily replaced by fibrous tissue, by which erection at this point may be wholly lost.

2. Whenever the contraction is very elastic, it stretches rather than breaks before the wedge, and is best divided by a sharp edge.

3. Whenever the induration matter extends more than half an inch along the passage, or is very thick, it is usually best to make an incision through it.

In other cases, as divulsion is simpler and needs less precaution, it is on those accounts generally preferable to incision.

THE TREATMENT OF POST PARTUM HÆMORRHAGE.

By ROBERT BARNES, M.D.,

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THE question of the treatment of *post partum* hæmorrhage is one so momentous, so many lives literally hang upon the decision arrived at, that I feel I am not at liberty to refrain from offering some observations upon the papers of recent contributors. In doing this, I depart, almost for the first time in my life, from the rule not to enter upon any discussion which might bear the semblance of controversy. Great questions in practice, like this, must eventually be settled by clinical results. To experience, the appeal as to the value of perchloride of iron or some equivalent styptic directly applied to the bleeding uterus, must ultimately be made. A war of words, ingenuity in criticism, will do no more than obscure the facts and retard the full establishment of the truth. And this is the present danger. The not unreasonable prejudice against the resort to a bold and novel practice has been fostered of late by the timid protests of routine teachers on the one hand, or by the subtle argumentations of Zoilistic critics on the other. These combined forces might sway certain minds to stand upon the old ways, however treacherous, and thus to sacrifice lives that might be saved.

It is impossible for me to discuss the many papers, some of sterling value, such as those of Dr. Whittle, Dr. Bassett, and others, upon the anticipation and treatment of *post partum* hæmorrhage. I limit myself on this occasion to the paper of Dr. Boyd Mushet in the last number of the JOURNAL, because it seems to express some current errors as to fact and theory which require correction. He advocates a plan which he "deems novel". This is, "to inject cold water freely into the uterus." That this has its value, is well known, for it is far from novel. But when he goes on to say that "the virtues of the perchloride of iron are mainly to be ascribed to its vehicle, cold water," he emits a perfectly arbitrary theory. Surely Dr. Mushet has never used the perchloride. The choice between cold and styptics depends upon our appreciation of two entirely different physiological conditions. Styptics will act when cold will not. When the diastolic system

is dead to irritation, when life is almost ebbing away, when no known power can compel the uterine muscle to contract and thus to close its bleeding vessels, styptics, which act chemically, will still seal up the mouths of those vessels and corrugate the inner surface of the uterus.

For want of experience, perhaps, of the more desperate forms of hæmorrhage, this fundamental distinction has not made sufficient impression upon some men. I frankly accept their assurance that they have never failed to control hæmorrhage by compression of the uterus or aorta, by ergot, or by cold. I hope they will equally accept my assurance that I have seen many cases where men of the highest ability and experience had failed to subdue hæmorrhage by these means, and where, at this juncture, the perchloride of iron has instantly rescued the patient from impending danger.

In my *Obstetric Operations*, I have insisted as forcibly as I could upon this classification of cases, because I think that upon it rests the justification for urging a new plan of treatment. So long as cold acts, use it; but, when cold fails, use iron, which will not fail. Each has its use; each must have its turn. I am afraid Dr. Mushet has not done me the honour to read my book. At p. 461, 2nd ed., is the following passage. "Cold is more effectual if applied internally. Levret was, I believe, the first who used ice in this way. Perfect, says Levret, 'hit upon a very odd and ingenious expedient; he introduced a piece of ice into the uterus, which, being struck with a sudden chill, immediately contracted and put a stop to the hæmorrhage.'" A graphic clinical description of reflex action before the theory was known! Tyler Smith, to whom the theory and practice were alike known twenty-five years ago, advocated the injection of iced water; and, notwithstanding his early teaching and long experience, this keen observer and sagacious practitioner in the latter years of his life resorted to perchloride of iron.

I long used cold-water injections. At p. 472 of my book is the following passage. "At one time, it was my habit to wash out the uterus with iced water first. I now prefer not to do this. At the period when the perchloride is especially indicated, the exhaustion is generally so great that the injection of cold water is ill borne. I am inclined to think that, under the circumstances, the injection of cold water is more hazardous than the injection of perchloride of iron."

This leads us to the consideration of Dr. Mushet's statement that "he has no dread of cold-water injections; no compunctious fears of pyæmia or metritis, or irritant influence on the uterine tissues or sinuses, as he has never witnessed any injurious effect from their employment, which cannot be affirmed of the perchloride, *if we trust the evidence adduced at a former meeting of the Obstetrical Society.*" I have italicised the concluding sentence in order to point my assertion that the "evidence adduced" cannot be trusted. Few were there who *heard* the discussion referred to, but were satisfied that the positive evidence of good done by the perchloride far outweighed the doubtful evidence against it. A report of the proceedings of a learned society is often very like a newspaper report of a trial in a court of law. One must see and hear and know the witnesses in order to judge of the value of their evidence; and, even when we have formed a just estimate of evidence, we must be careful not to build a larger structure of deduction upon it than it will bear.

I will not contend that an injection of perchloride of iron may not be followed by pyæmia. But it is one thing to show that pyæmia has followed such injection, another to prove that the injection was the cause. But, let it be granted that the injection has caused pyæmia, is the remedy thereby absolutely condemned? Is no account to be taken of the numerous cases—for numerous they now are—in which life has been saved by it? Certainly, after severe hæmorrhage, under any treatment, or no treatment, the liability to pyæmia is great. That perchloride of iron adds sensibly to that liability is not proved: unless, indeed, we take the case of a woman who, but for the use of perchloride, must have died of hæmorrhage. If she have pyæmia, it may truly be said that, but for the perchloride, which enabled her to survive the immediate peril of flooding, she would not have had pyæmia. But pyæmia has often occurred after the use of cold water. Will it be said that the cold water caused the pyæmia? I will not affirm that it did; but of the frequent sequence there can be no doubt. Scarcely a week passes without my having the opportunity of seeing some case of pyæmia after labour at term or abortion where iron had not been used. In some of these, experience justifies me in the belief that pyæmia would not have taken place had the iron injection been used in time to lessen the loss of blood, and thus to spare the conservative forces of the system.

I still feel justified in repeating the formula expressed at p. 474 of the work quoted.

"We have three stages of hæmorrhage to deal with. 1. There is hæmorrhage with active contractility of the uterus. Here the diastaltic

function may be relied upon; excitants of contraction find their application. 2. There is the stage beyond the first, when contractility is seriously impaired, or even lost. Here excitants of contraction are useless; our reliance must be upon the direct application of styptics to the bleeding surface. 3. There is the stage beyond the first two, where not only contractility, but all vital force is spent, where no remedy holds out a hope unless it be transfusion; and even this will probably be too late."

The practical directions are as follows. Take a Higginson's syringe, to which is connected a uterine tube nine or ten inches long. Mix in a deep basin four ounces of the strong liquor ferri perchloridi of the *British Pharmacopæia* with twelve ounces of water; pump through the delivery-tube two or three times to expel the air; then pass the delivery-tube into the uterus, so that its end touch the fundus of the uterus; then pump gently and slowly; the styptic fluid will thus bathe the whole inner surface of the uterus.

Had I the smallest misgiving as to the value or general safety of the practice for which I am mainly responsible, I would, without hesitation, retract all I have said, and avow my error. I have not the vain ambition to set up a "currus triumphalis" of iron. But knowing that lives dear to me, and lives dear to others, have been saved by it; and still believing that the benefits far outweigh the evils springing from it, I again commend the practice to those who have the courage to try a new remedy in desperate circumstances, and who fear to let a woman bleed to death relying too long upon means sanctioned by routine.

As I have said at the beginning, this momentous question must be decided by facts. From every quarter of the compass assurances flow in that lives have been saved by it. I earnestly appeal to every man who has had a fatal case of flooding after the use of perchloride of iron to publish as full an account of it as possible. At some future time I shall endeavour to sum up the evidence, giving faithfully the records of my own observations and reflections.

ON THE USE OF PERCHLORIDE OF IRON IN POST PARTUM HÆMORRHAGE.

By LOMBE ATTHILL, M.D.,

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THE treatment of *post partum* hæmorrhage, being altogether a distinct subject from the possibility of anticipating and averting its occurrence, was not considered in the papers recently published by Dr. Whittle and myself in this JOURNAL. The question is, besides, so important, that, to do it justice, it should be treated at length. I shall, therefore, in response to Mr. Moorman's appeal, merely state my own experience of the results of the use of the direct application of the solution of the perchloride of iron to the interior of the uterus, when used for the purpose of arresting *post partum* hæmorrhage.

Since I commenced the practice of injecting this styptic salt into the uterus in the class of cases under consideration, I have not had a fatal case of *post partum* hæmorrhage, while I believe I have saved several lives which were in great jeopardy. In one case only did death subsequently occur. The patient was a lady, a member of a highly strumous family, who herself, prior to the occurrence of labour, was in very bad health. Sudden and uncontrollable hæmorrhage set in immediately after the birth of the child. Not a moment was to be lost, or my patient would have been beyond the reach of medical aid. What the exact strength of the solution I employed may have been I know not, for it was made by guess. I injected about four ounces of it. The hæmorrhage was instantly arrested, and the patient did well for five days; then symptoms of pyæmia set in, and she finally died. I do not believe that her death was due to the injection of the perchloride; but I relate the case as it occurred. Of this I am sure—that she would have died in a few minutes from hæmorrhage, had it not been restrained by the action of the perchloride. I now always carry the perchloride of iron with me, and, if any excessive loss occurs, use it as directed by Dr. Barnes in his work on "Obstetric Operation." I believe the satisfactory results which I have met with are due to my using the solution promptly, and in not waiting till the patients were in a state of collapse. For the purpose of injecting it, I use a common syphon syringe, to which an ordinary vaginal flexible nozzle is attached. This should be carried fairly up to the fundus of the uterus. I generally find that four or five ounces of the solution are sufficient. As to the strength, Dr. Barnes recommends that four ounces of the strong liquor ferri perchloridi be added to twelve of cold water. I generally use it stronger—about two parts of water to one of the liquor. One precaution only is needed,