

of the District Board, provide him with the aid of a Civil Hospital Assistant, and give him a supply of medicines, etc., so that he should not go empty-handed into far away villages, and be unable to relieve such cases of distress as would crowd round him at every camping ground. Much might be said concerning the great good this would do in furthering confidence in European medical treatment and of its value as a feeder to the already established charitable dispensaries; besides its value as affording a valuable experience to the medical officer himself who would thus see the lower native classes, as they are in their own homes, much more closely than these officers do at present. The effect of this in showing the rural population that Government had some care for their welfare, otherwise than through the police system, would be no doubt of great value in aiding the continuance of a contented spirit among the cultivators of the soil which seems to show signs in some districts of passing away.

In order to prevent this service being offered by a constant succession of very junior officers, it seems easy to order and carry out a rule that no appointment should be made, either permanently or temporarily, to the regular Civil Department until four or five years had been spent as a sanitary officer. This length of time would be sufficient for the officer to learn the language and ways of the district, and give several years of really valuable service in his most energetic days.

A METHOD OF DEALING WITH VERY LARGE CALCULI IN BLADDER.*

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SOMETIMES, more especially in this country, surgeons come across enormous calculi.

The one now before me measures $3\frac{1}{4}$ inches shortest diameter, $4\frac{3}{8}$ inches longest diameter. Smallest circumference $10\frac{1}{2}$ inches, largest $11\frac{1}{2}$ inches. Its present weight being 22 oz., when first removed it weighed 25 oz. This stone was not a case of mine.

Now the question I wish to put before you is, how to extract a similar stone without injury to the bladder.

The size of opening required to pass this stone through a piece of cloth is 5 inches, passing it by the shortest diameter, *viz.*, $3\frac{1}{4}$ inches. Of course in the living tissues the opening would stretch to a certain extent, but even in living tissues the incision must be at least $4\frac{1}{2}$ inches, as one has to remember the blades of the forceps. Such a large incision cannot be made in the perinæum, a lithotrite will not crush it, therefore the only operation remaining is suprapubic.

That was the operation performed in this case; the patient died. In suprapubic operation when the bladder is fully distended the largest incision

which can be made is between 3 and $3\frac{1}{2}$ inches, but as soon as the bladder is opened the incision becomes smaller from the escape of fluid in the bladder.

The only way to extract the stone is by breaking it and this I propose doing in the following manner:—

The patient having been prepared as for suprapubic operation and the usual incision made to expose the bladder, it is opened by an incision of one and-a-half inch long.

The instruments required are a small sharp pointed piece of steel about 10 inches long, a leaden hammer, a piece of stout cloth about 18 inches square, across which, from corner to corner, a piece of tape has been sewn, attached to one of the corners a piece of string 24 inches long, and a metal catheter.

To prepare the cloth open it out on a table, lay the string attached across to the opposite corner and commence to roll the cloth from the corner to which the string is attached until it reaches the left and right-hand corners. If rolled according to above it will leave the cloth in a triangular shape. Now pass the end of the string along the catheter and place the end of the catheter in the centre of the roll and press down, take the left-hand corner and bring it up to the catheter, take the right-hand corner and do likewise and repeat with the third corner. The catheter will now be enclosed in the cloth. Pass the end of the catheter with cloth into the bladder above the stone until the end touches the posterior wall of the bladder, give the ends of the cloth outside the bladder to an assistant to hold and pass the end of the catheter round the stone, either right or left, until the point comes to the same place in which it was when above the stone. With a few tries the stone is pushed over the roll of cloth.

Now withdraw the catheter and string together; in so doing the part of cloth which was rolled up becomes opened and is drawn out through the wound.

Get your four corners even: the stone will now be inside the cloth in the centre.

Pass the four corners through a ring of one and-a-half inch diameter and open the cloth: this will expose the stone.

An assistant now takes two corners in each hand and draws the stone upwards until it touches the abdomen.

Pass the sharp pointed instrument through the opening on to the stone and with the leaden hammer strike it a few light blows so as to make a small dent in the stone, so as to prevent the instrument slipping. After having done this, strike heavier blows, the stone will be broken, small pieces can be removed with forceps, and larger pieces again treated in the same way until the whole is removed, when the cloth is withdrawn. To save time, if a lithotrite is at hand, it could be used to crush the large pieces.

* Read at the Indian Medical Congress, December 1894.