

rience of the Pennsylvania Hospital during 24 years :—

Bone.	Upper third.		Middle third.		Lower third.	
	No.	P. C.	No.	P. C.	No.	P. C.
Radius ...	24	3·7	53	8·2	571	88·1
Ulna ...	82	57·3	32	22·4	29	20·3
Radius and ulna ...	39	12·5	147	47·3	125	40·2

The results agree very closely, and show—*1st*, that the radius is very seldom broken in its upper third; *2nd*, that the ulna is pretty equally liable to fracture throughout its whole length, and, *3rd*, that when both bones are broken the fracture is much more frequently situated at the middle and lower thirds than at the upper.

The second practical point which I would urge may be didactically stated as follows :—

When you discover a fracture of the ulna at its upper third, examine carefully for a dislocation of the head of the radius and reduce it if possible.

## CLINICAL LECTURE:—LITHOTOMY AND FRACTURE OF THE SKULL.

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Gentlemen, the patient now before you, a worn-out Mahomedan *æt.* 60, who has had a stone in his bladder for the last seven years, has come to the hospital to be relieved of it by lithotomy: and this is the first case requiring this operation that has presented itself since I came among you. I propose to explain to you the principles on which it ought to be conducted.

You will find it stated in surgical text books that no operation has excited so much attention, been more written about, and been practised in so many different ways as lithotomy. It may be added that no operation in surgery has been attended with such varied results. It is not a difficult operation. Some of the most successful operators for stone have been men otherwise not worthy of the name of surgeons; but, on the other hand, it is not at all uncommon to see the operation performed unskillfully and unsuccessfully by good surgeons and bad surgeons alike. The reason of all this appears to me to be, that no principle has yet been advanced, or recognised by the profession, which forms a certain guide to its easy and safe performance. The question arises, is there such a principle? I think I shall be able to convince you there is, and I have no doubt that many surgeons have practised it, either systematically or accidentally, though few appear to be aware of its true value.

As the patient is waiting, I shall perform the operation at once and then explain it to you.

[Chloroform having been administered, an ordinary full-sized staff grooved on the front was passed into the bladder, and the stone felt. The operator's left

forefinger was introduced into the rectum, and kept there while the knife was entered in the middle line, immediately above the anus. Directly it touched the staff it was guided into the groove by the finger in the rectum, and pushed on into the bladder. It was then lateralised and withdrawn from the bladder, the lateral incision being completed in the usual direction as the knife was taken out. The staff was next withdrawn, and the opening in the prostate enlarged to the requisite size with the finger. The stone was easily extracted and the patient removed to bed.]

What you have to do in lithotomy is (1) To expose the staff; (2) to cut through the prostate into the bladder on its groove, and (3) to extract the stone. Of these three steps the first is by far the most important, and everything depends on its proper performance. The second may be carried out in one of two ways, and the third is generally easy, but may present difficulties due to the unusual size or shape of the stone.

The principle of the operation consists in exposing the staff so that the incision into the bladder shall involve the least possible disturbance of the space between it and the membranous portion of the urethra in front and the rectum behind, *i. e.* the perineal space. Briefly it consists in cutting right down on to the staff in the membranous urethra in the first incision. The incision into the bladder, which constitutes the second stage in the operation, can then be made in the manner you have just witnessed; or by making the lateral incision from the point where the knife first touches the staff, and then guiding it into the groove with the finger in the wound. There is no particular object in cutting straight into the bladder, but it is generally so very easy that one gets into the way of doing it as a matter of course. I practise it as a refinement of the principle of avoiding disturbance of the perineum, but it is not an essential part of the procedure.

In the third place, if the first and second stages of the operation have been properly executed, the prostate will be found sufficiently incised to allow the finger to pass into the bladder, and it only remains to enlarge this opening for the stone to pass out through it. This is best effected by dilatation with the finger, which is generally sufficient; but if the stone is too large for the opening made in this way, the incision and dilatation may be safely repeated in another direction.

I can best explain the advantages of operating on the principle of exposing the staff in the first incision by comparing it with the method recommended in the text books.

In Holmes's *Treatise on Surgery*,\* page 774, you are told to commence the operation by making an incision "from the left side of the central point of the raphe." This incision should divide the skin and superficial parts. The surgeon then puts his left forefinger in the upper angle of the wound, and deepens the incision till he can distinctly feel the groove of the staff. The difference between the two plans is obvious, but you will

\* I believe Mr. Holmes is better acquainted with the literature of surgery than any surgeon in Europe, and therefore his description may be taken to represent the usual teaching on the subject.

not appreciate it unless you try both on the dead body. If you follow my directions you will feel the staff lying bare at the bottom of the wound when you have made your first incision, and the rest of the operation is quite easy.

But if you obey Holmes's instructions, you find on completing your first incision—(1) that you have a rolling mass of tissues between your finger and the staff; (2) that, cut through this how you will, the line of your incision will be zig-zag; (3) that the groove of the staff is by no means easy to find. And, finally, in feeling about for the groove with your finger and the knife, you can hardly avoid making pouches in the perineal space. The operation is thus not only difficult but dangerous, for it is the disturbance of the perineum which this implies which exposes the patient to the grave risks and numerous evil consequences of diffuse inflammation.

It now only remains to consider whether the results of the operation performed in the manner I have recommended justify this recommendation in the strong terms I have employed. I learnt the principle of cutting direct on to the staff from Dr. Partridge.

I cannot give you the statistics of Partridge's operations, but he is one of the few really great surgeons of modern times, and was a most successful lithotomist. In my own practice I have operated on this principle successfully in twenty-six unpicked cases. This number however is not sufficient to warrant a definite conclusion. But, on a recent visit of inspection to Loodiana, I found that the Assistant-Surgeon in charge of the dispensary, Dr. Gokul Chand, had operated in the same way for the last six years, and I beg to lay the results of his practice before you. Between January 1st, 1875, and December 31st, 1879, he operated on 170 unpicked cases, which were all treated to a termination, in the dispensary, under the supervision of the Civil Surgeon Dr. Rouse. During this period there were five deaths, or under three per cent. In 1875 and 1877 he operated 75 times without any deaths at all, and I look upon these results as the perfection of surgery, and due entirely to the method of operating. It is absurd to ascribe a run of good cases in India to the constitution or habits of the natives. Disease affects dispensary patients here in the same way as it affects people in other countries, and we get just as many or more miserable worn-out patients to operate on in India as surgeons do in any other country in the world. As far as my experience goes, and Dr. Gokul Chand's agrees with it, the great danger to guard against after lithotomy is diarrhoea. The five deaths among Dr. Gokul Chand's cases all occurred from this cause.

The best advice I can give you for its prevention is to feed your dispensary patients after operations as nearly as possible on the same kind of food as they have been accustomed to in their own homes.

#### COMPOUND COMMINUTED FRACTURE OF THE SKULL.

The next case I have to show you is a very remarkable one of fracture of the skull. Ten days ago this man was kicked on the forehead by a horse, and brought here immediately. There was a ragged wound across the left side of the forehead, and the frontal bone was badly

fractured. The bone was deeply furrowed into the frontal sinuses for about three inches, and it was splintered and the periosteum torn off it in all directions. The patient was bleeding profusely from the mouth and nose. The wound was stitched with horsehair and dressed antiseptically, and I have brought him before you to-day in order that you may see that it is soundly healed. You may remember that in laying down the principles of treating wounds, so as to secure healing by the first intention, I explained to you that you ought to have three objects in view—(1) to prevent inflammation, (2) to prevent accumulation of discharges in them, and (3) to protect them from atmospheric germs. The first and third of these objects were secured in the present instance by the antiseptic arrangements we employed. The second is generally effected by means of drainage: but in this case artificial drainage was unnecessary because a free outlet for fluids from the wound cavity was provided by the wound itself on the one hand, and the openings of the frontal sinuses into the nose on the other. For the first 24 hours the discharge of bloody serum from the nose was profuse, then the discharge gradually ceased altogether and healing took place without inflammation, *i. e.* by the first intention. The case was only dressed twice, at intervals of two and four days, and the man might now be discharged from hospital, but he will be detained for a few days, in order that we may be sure that he has not sustained any cerebral mischief.

### BENGAL NOTES.

ARRANGED BY SURGEON-MAJOR F. R. HOGG, A. M. D.

[Continued from page 43.]

#### JUBBULPORE.

In the old days Jubbulpore was reckoned as one of the pleasantest of Indian stations; situated in a green hollow among low granite hills always covered with verdure: with tidy hard roads and plenty of greensward: with commodious bungalows embowered in magnificent clumps of bamboo; remarkable for the delicacy and abundance of its fruits and other garden products including pine apples: and a most absurdly cheap sort of place to live in. *Vide* the "Highlands of Central India," by Captain Forsyth, who goes on to say that the agriculturist and the merchant have gradually prospered, whilst the general expenses of those on fixed incomes have seriously increased. Other writers describe Jubbulpore as situated at the base of a rocky hill about a mile from the right bank of the Nerbada river, fordable in that place in the season of low water when it is 3 feet deep and 300 wide. There are small lakes and tanks which swell in the rains. The range of hills overlooking the town is granite of several kinds: and every subordinate formation including gneiss, hornblende, schistose rocks; dolomite will be found in the neighbourhood. Various sanitary reports allude to the granite out-crop on or close to which the station has been built, the sandstone to the east, the deep porous alluvium resting immediately against the granite and extending far to the north and west as a