

Oct. 8th. Readmitted for swelling and stiffness of the knee, with intense pain, which were removed by the use of calomel and opium.

12th. An abscess formed at the upper and anterior part of the leg, which was opened, and discharged healthy pus.

15th. Another abscess formed near to, and apparently communicating with the ankle joint. At this time, the slightest attempt to move, or even touching the limb, gave him the greatest pain.

Nov. 9th. On this morning a spot of a dark colour, undefined and doughy, appeared on the dorsum of the foot near the toes.

15th. The great toe, the second, and part of the third, are affected with mortification, as is also the greater part of the foot. The remaining toes are of a dull purple colour at their extremities, and he complains of intense pain. From the roots of the toes to the instep there is a patch of a light brown colour, dry, and apparently below the level of the surrounding parts, which are œdematous, swollen, and deprived of their cuticle. The œdema reaches to the knee. Amputation was decided on, and performed in the usual manner high up in the thigh.

Although performed under such unpromising circumstances, few operations could be more successful, the stump granulated healthily, and the patient left the hospital, for the second time, in the course of the sixth week afterwards.

ART. XV.—*Case of Wound of the Gluteal Artery, and an Account of the Operation for securing it.* By RICHARD CARMICHAEL, M. R. I. A., one of the Senior Surgeons of the Richmond Surgical Hospital.

As considerable apprehensions still possess the mind of surgeons respecting the difficulties of securing the gluteal and sciatic arteries when wounded, a detail of the circumstances attending the following case may be of service, as it will tend to

remove groundless prepossessions, and at the same time evince that any surgeon acquainted with the anatomy of the parts, and possessing a cool judgment, may, without dread, boldly cut down upon either of those arteries, and secure them with the greatest facility. There is, no doubt, a considerable depth of parts to be divided; but this division can be safely and easily effected, by merely following *the direction of the fibres* of the great gluteus muscle over the site of the sciatic notch, care being taken to make this division sufficiently large to admit of the easy removal of the coagulated blood: which being done, will expose clearly to view the mouth of the bleeding vessel. It is, probably, from the lively picture which John Bell has drawn of the formidable nature of this operation, that practitioners have derived their apprehensions of danger; indeed the dramatic sketch he has left us of the case of the leech-catcher is enough to appal the most stout-hearted. His vivid descriptions of an incision of "eight inches," afterwards enlarged to "*two feet in length*," (we are not informed in what direction,) the "eight pounds of coagulated blood" removed from the sac, the deluge of fresh blood which followed with a "loud whizzing noise," and the apparent extinction of life in the patient, with the vain efforts of the surgeons to stem this rapid torrent by pressure on the abdominal aorta, together with a tedious convalescence of seven months, attended with exfoliation of the bones, are all circumstances so truly terrific as to make an indelible impression on the mind of the reader, and which, I acknowledge, was not effaced from mine, although I had not read the work since its first publication, probably a period of upwards of thirty years. It was not then without considerable apprehensions, and the collected resolution of a man determined upon some mighty enterprise, that I proceeded to the task thus imposed on me; but in the prosecution of my purpose I was agreeably surprised to find no difficulties to contend with, and that the gluteal artery, even at its root, was secured with almost the same ease as any other artery of equal depth.

My friend Mr. Guthrie, in his excellent practical work on "Diseases and Injuries of Arteries," which every surgeon should have at hand, seems, as well as myself, not to have altogether escaped from the prejudices of early education. In detailing the interesting case of Colonel M'Pherson, who received a musket ball in the hip, we find that the operation was performed by Staff Surgeon Murray, but too late to save the patient, as he was previously worn out by frequent attacks of hæmorrhage. "It is evident," says Mr. Guthrie, "that the operation ought to have been done in the first instance. The only cause of delay arose from the thickness of the muscular parts to be divided, and the dread which at that period filled the minds of most surgeons upon this subject, a dread which, it is to be hoped, will be for the future abandoned."* Again, he observes, in speaking of the operation, "In all cases of aneurism of the gluteal and sciatic arteries, the internal iliac should be tied, instead of an operation on the part itself."† Now, in the great majority of instances, in which aneurism occurs of either of these arteries, it is most likely to be, as in the case I am about to detail, of the diffused kind, owing to a punctured wound by a pen-knife, or some similar sharp instrument. Mr. Guthrie, I am aware, never meant by the above passage to recommend, in such instances, the adoption of the truly formidable and dangerous operation of tying the internal iliac, in preference to one comparatively far less hazardous, and at the same time likely to prove more efficacious. Yet in the subsequent case, his authority was adduced by well informed surgeons as a reason why I ought to pass a ligature around the internal iliac in preference to the gluteal artery. When Mr. Guthrie's work comes to another edition, it would be well to remove all ambiguity upon the point in question.

I shall now briefly detail the circumstances of the case, first

* Page 292.

† Page 377.

premising, that previous to operation it was fully ascertained that pressure on the abdominal aorta was capable of obstructing the circulation through the inferior extremities, a matter of considerable importance to be assured of, in cases of wounded arteries, close to the trunk, in subjects not overloaded with fat; but which, it will be found, was not of any use in the present instance, as hæmorrhage during the operation was readily suppressed by the point of the finger pressed upon the mouth of the bleeding artery.

On the 19th of the present month of September I was called upon to see Master West, aged 17, who, eleven days before my visit, received accidentally a wound of a pen-knife on the right hip, which penetrated as far as the handle would permit it to go; an immediate gush of blood followed, so strong as to dash against the wall of the chamber, near to which he was sitting. The hæmorrhage was, however, easily suppressed by Mr. Atkinson of Gardiner-street, who resides within a few doors of the patient.

Three days afterwards the patient imprudently rose from his bed, walked down stairs, but had scarcely returned to his room when he felt an acute pain in the hip, followed by immediate tumefaction, which increasing from day to day, I was called upon to see him. On examination I found the entire right hip considerably swollen and firm to the feel, the skin was slightly discoloured, having somewhat the appearance that a bruise would present. The trochanter could scarcely be felt, so great was the tumefaction. On measuring the two hips, by passing a tape between the thighs to the anterior superior spinous process of the ileum of each, the affected hip measured two inches more than the sound one; the upper part of the thigh was also so much swollen, that its circumference measured more, by an inch and a half, than the other; the integuments were also discoloured more or less even to the ham. The small cicatrix of the wound was situated about half an inch above the presumed situation of the upper margin of the ischiatic notch,

where the gluteal artery emerges from the pelvis. No pulsation was evident to the eye, even on the most minute examination, but the strong pulsation of an aneurismal tumour was manifested to the ear by either immediate or mediate auscultation. It was evident, therefore, that the tumefaction of the hip did not depend upon the presence of matter, notwithstanding that the patient had been affected with frequent rigors from the period that the swelling took place, accompanied by foul tongue and symptomatic fever, but that it was owing to an effusion of blood, in consequence of a wound of the trunk of the gluteal artery or one of its largest branches.

As I had known instances of wounds of large arteries healing under similar circumstances, although the limb was injected with blood, I deemed it right to give this patient a similar chance before recourse was had to operation. I therefore directed ten ounces of blood to be taken from his arm, as the tumour was painful, and the pulse quick and hard. Draughts containing tincture of digitalis were given every sixth hour, a cold lotion was applied to the tumefied parts, and absolute rest in the recumbent position enjoined. This plan, with occasional opiates to meet pain and uneasiness, was persevered in during five days, but no benefit was derived; on the contrary, the tumefaction of the hip and entire limb was obviously increasing, and the state of the patient was so distressing, that even he himself became anxious for the operation, which was performed on the 24th of September, in the presence of Messrs. Colles, Adams, M'Dowell, Hutton, Logan, and Doctor Brown, who kindly lent me their assistance.

Operation.—The patient being placed upon a table, lying on his face, I commenced the operation by an incision five inches in length, commencing an inch below the superior posterior spinous process of the ileum, and about the same distance from the margin of the sacrum, and continued it in a line obliquely extending downwards to the trochanter major. The gluteus maximus and medius were then rapidly divided, or

rather their fibres separated (as the incision ran in the direction of the fibres) to the same extent as that of the integuments. The coagulated blood forming, the tumour then became apparent through the sac, or condensed cellular membrane with which it was covered. This was divided the whole extent of the incision by running a buttoned bistoury quickly along the finger introduced into the sac, and its contents, consisting of from one to two pounds of coagulated blood were emptied rapidly out with both hands into a soup plate, which it completely filled.—A large jet of fresh blood instantly filled the cavity I had emptied, but the precise spot from whence it came being perceived, I was enabled by pressure with the finger to prevent any farther effusion, while that which had been just poured out was removed by the sponge. It was obviously the trunk of the gluteal artery, just as it debouches from the ischiatic notch, which had been wounded. I endeavoured, but in vain, to secure the artery by means of the tenaculum. I had then recourse to a common needle of large size, and with this instrument was immediately successful in passing a ligature around the bleeding vessel and of preventing all farther hemorrhage. After having waited some little time to ascertain if the artery was perfectly secured, lint was introduced to the bottom of the wound, as it was not likely that union by the first intention would take place between the walls of the extensive cavity which contained the coagulated blood. The patient was then put to bed and an anodyne given to him.

Every thing went on favourably after the operation. On the third day the external dressings were removed; on the fourth, the greater part of the lint with which the wound was filled came away, followed by a flow of matter of a good quality. On the sixth, the ligature came away, as well as the remainder of the lint. From this period the matter continued daily to diminish, and at the time this sheet went to press, (sixteen days after the operation), the patient was completely convalescent, and the wound rapidly healing.