CASE
OF
GUNSHOT WOUND
OF THE
SHOULDER JOINT,
WHERE THE HEAD OF THE OS HUMERI,
TOGETHER
WITH PARTS OF THE HUMERUS,
WERE SUCCESSFULLY REMOVED;
BY WILLIAM RICHARD MOREL, Esq.
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COMMUNICATED BY
SIR JAMES MACGRIGOR.

Read March 5, 1816.

IN the late severe contest in which we have been engaged in the Peninsula, many soldiers who had unfortunately experienced compound fracture of the shoulder-joint, have suffered amputation of the arm at its articulation with the scapula, by which they have not only been deprived of their limb, but in consequence of such their helpless state, have been compelled to depend in a great measure upon others for that assistance, of which, had their limbs been preserved, they would not have stood in need.

The following case which I have the honour to lay before the Medical and Chirurgical Society, will shew that it is not always necessary to have recourse to so dreadful an operation, as the removal of a whole member, for the preservation of life, even apparently under very unfavourable circumstances.

I wish to impress, particularly upon the minds of the junior part of the profession, this incontrovertible truth, *viz.* that it is far more honourable and praise-worthy to attempt the preservation of a limb, than to remove it, however dexterously such operation be performed.

The preservation of a limb is at all times of the greatest consequence to an individual; but to that class of society who are obliged to earn a daily subsistence by labour, it is of the highest importance, and I would wish them always to bear in mind the very impressive words of our great master, Mr. Pott, "that an amputation is an operation horrid to see, terrible to bear, and must leave the unhappy person on whom it has been performed in a mutilated imperfect state."

Case of Thomas Ellard.

Thomas Ellard, a private in the 18th hussars,

aged 32, strong, muscular, and apparently free from any kind of disease, was admitted a patient of York Hospital, September 13th, 1815, for a gunshot wound of the left shoulder, received at the battle of Waterloo.

The ball had passed through the head of the os humeri, about an inch and a half below the scapular extremity of the clavicle, as may be seen by a reference to the annexed Plate. In addition to the two wounds made by the entrance and exit of the ball, there was a third occasioned by an abscess which had formed, and which had been opened, and from which some small fragments of bone had been extracted. The situation of this latter opening was a little below the insertion of the pectoralis major, and upon examination with the probe was found to communicate with two former ones. In whatever direction the instrument passed, shattered pieces of bone could be felt.

From the long and constant irritation kept up by the fractured portions of the head of the bone, and the profuse discharge of offensive matter which they occasioned, the health of the patient was evidently on the decline, and as it clearly appeared that nature of herself was unable to remove the offending cause, there remained the alternative of either removing the member at its articulation with the scapula, or of attempting to preserve it by cutting out the shattered portions of the bone.

The advantages likely to result to the patient in point of seemliness, utility and comfort, from the latter operation, should it prove successful, were so obvious that I hesitated not to prefer it; and on explaining to the patient the circumstances which rendered the operation necessary, he very readily gave his consent.

On the 22nd of November, in the presence of most of the medical officers of the York Hospital, and other gentlemen, an assistant having made pressure with a boot-hook wrapped up in a piece of lint, upon the subclavian artery, as it passes over the first rib, I made an incision through the integuments and deltoid muscle, vide Plate II; commencing at the upper orifice, and continuing it in a semilunar direction to the opposite side, with the intention of forming a flap, similar to that which is made when the arm is to be removed at the articulation.

In dissecting the deltoid muscle from its connection with the bone, I had some difficulty; the cellular membrane having acquired a cartilaginous thickness. The flap being raised up, I dissected a little round the head of the bone, and then introduced my finger, which passed through it; several splinters were felt adhering to, and entangled with the muscles. As the separation of these pieces would have been tedious, and the sufferings of the patient thereby unnecessarily prolonged, I pro-

ceeded to the removal of the head of the bone, by dissecting round it as well as circumstances would allow, which was accomplished, not without some difficulty, as the capsular ligament was considerably thickened, and with the head of the bone formed one confused mass. This, however, being effected, I, by the application of the saw to that part of the bone into which the tendon of the pectoralis major is inserted, removed the anterior half of the bone, and with it two smaller fragments. This gave me an opportunity of examining the remaining half of the bone, which was thrown back under the edge of the cup of the scapula, or glenoid cavity as it is called. To remove this, it became necessary to separate the capsular ligament from its connection with the neck of the bone, and contiguous muscles; *viz.* teres major, pectoralis major, latissimus dorsi, and subclavius. The remaining portion of the bone being now removed by the saw, the flap was brought down and preserved in contact with the lower portion of the deltoid muscle by slips of adhesive plaster, compress and bandage.

This operation took up nearly three quarters of an hour. Two arteries only required the ligature. On sawing through the posterior portion of the bone, an artery sprang from the interior substance of it; but the hæmorrhage was immediately suppressed by a dossil of lint dipt in spirits of turpentine. I should suppose that the man might lose during the operation about two pounds of blood,

an occurrence to be considered rather as favourable than otherwise. He bore the operation with great firmness; was carried to his bed; the shoulder and arm ordered to be kept constantly wet with cloths dipt into cold water, and in the evening an opiate was administered. I visited him in the evening, and found him in all respects as well as I could wish.

23rd. I visited him about ten o'clock this morning; found him in good spirits; slept but little during the night, and complained only of soreness; skin moist; tongue clean; countenance cheerful; pulse about 120. He was put upon spoon diet, and the opiate ordered to be repeated.

24th. Slept pretty well, and said he was not in any one respect worse than he was before the operation.

This morning I removed the dressings, which from their stiffness had occasioned some uneasiness, and found all quiet; perfectly free from pain, inflammation, or tension; edges of the wound in contact; skin temperate; pulse 102; tongue clean; slept a little at intervals; rather languid, not having had an evacuation since the operation. I gave him half an ounce of sulphate of magnesia in a little peppermint water, and repeated the opiate in the evening; a small quantity of broth was allowed.

26th. Slept pretty well ; complains of pain this morning ; pulse as usual ; slight nausea at stomach ; as the salts had not the desired effect, a common injection was prescribed ; wound appeared clean and healthy ; on the removal of the dressings, a small quantity of well formed pus issued from the anterior shot hole. Rice pudding was allowed to-day, in lieu of the broth, which he did not relish.

27th. Passed the preceding night ill ; shoulder on inspection swollen and inflamed ; pulse 100 and quick. In the early part of the morning, feet chilly. On removal of the dressings, a considerable quantity of pus discharged itself from the anterior shot hole ; the posterior part of the wound was united, by florid and healthy granulations. After visiting the hospital, I returned again, and found that the injection had been discharged without bringing away any fæces. I accordingly prescribed the following medicine.

R Magnes : sulph : ℥iss.
 Aq : menth : sativ :
 ——— Puræ aa ℥iv.
 Spirit : pimento ℥i. M.

A fourth part to be taken immediately, and repeated every two hours until the bowels shall have been well emptied.

Two doses of this mixture produced a copious

evacuation. In the evening I found him greatly relieved; arm less inflamed; skin moist; pulse rather quick and languid. On account of his bowels having been a little ruffled by the salts, I added this evening, confect. aromat. ʒj. to the night draught.

28th. Perspired freely during the night, but did not sleep; tongue clean; pulse reduced to about 76; free from pain. In the course of the night had two evacuations; discharge copious, but of good colour and consistence; has had no return of chills.

29th. Slept well; pulse soft, and natural; discharge good, and diminished in quantity; appetite good. Having expressed a desire for some fish, I indulged him with a small quantity; and some port wine and water, weak, was also allowed. The opiate was repeated in the evening.

30th. Slept well; had a stool early in the morning; in all respects as on the preceding day; some coffee was given in lieu of the tea, which disagreed with his stomach.

Dec. 1st. Slept well; had two stools in the course of yesterday; wound clean; granulations healthy; discharge moderate; appetite good;

diet ordered to be continued; opiate at night omitted.

2nd. No alteration since yesterday.

3rd. Slept well; discharge moderate, and good; bowels inclined to be costive; wound florid; the arm appears to be shortening, the consequence of the retraction of the muscles; the upper part of the shaft of the bone may be distinguished by the touch, extending rather forward towards the axilla, than in the direction of the glenoid cavity. I therefore brought the arm a little over the breast, and by means of a compress and splint applied to the inside of the arm, extending from the axilla to the internal condyle of the humerus, kept it at some little distance from the side. The fore-arm was well supported by a sling, to which was applied a strap that passed round the neck.

4th and 5th. Has not any thing to complain of, and sleeps well; granulations increasing fast.

6th to 11th. No change has taken place except the rapid increase of the granulations, which I ordered to be repressed by bandage and lint, dipt in a solution of cuprum vitriolatum, in water.

12th. Had a slight rigor in the evening, and complained of being cold, particularly in his feet;

pulse 120, with headach and thirst. Some castor oil had been given before I arrived, which produced sickness, and he vomited a considerable quantity of bile; and in the course of the evening had several evacuations. This sudden change I attributed to indigestion brought on by too early an alteration of his diet; I therefore discontinued the fish, and put him again upon broth made of lean beef.

His stomach and bowels having been considerably disturbed, I found it necessary to administer the following cordial mixture, of which he took occasionally two or three table spoonsful.

R Mistur. camphor. ℥ij.
Aq. Puræ ℥vj.
Confect. aromat. ℥ij. M.

13th. Slept a little during the night; stomach and bowels quite easy. The lower orifice, where the abscess had been opened, was slightly inflamed, and an abscess appeared to be forming.

14th. Found on visiting him this morning that he had passed a restless night; was sick, and generally uneasy; looked sallow, and for the first time since the operation, seemed out of spirits; bowels not open; an abscess had formed near the lower orifice; ordered the arm and shoulder to be

well fomented, and afterwards a poultice of linseed meal to be applied, and an injection of thin gruel, with a little salt and olive oil, to be thrown up in the evening, if necessary. This was had recourse to, and produced an evacuation.

15th. Inflammation diminished; some matter issued from the lower orifice; perspired copiously during the night; skin moist; tongue clean; pulse soft and regular; ordered the mixture to be discontinued, but the poultice to be repeated.

16th. Slept well; inflammation abated, and discharge lessened; in all respects better than on the preceding day.

To the 23rd. Continues to improve daily.

24th. Discharge trifling; inflammation entirely gone; wound nearly healed.

26th. Sleeps well; appetite good; countenance clear; is growing fat; wound healed; slight moisture from the lower orifice.

Jan. 3rd, 1816. The wound requires no further dressing, and the man is in excellent health. The distance between the cup of the scapula, and the extremity of the humerus, is not more than an inch and a half. On measuring the arm from the top

of the acromion to the points of the elbow, the difference between it and the other arm is about one inch and a fourth. There is a little motion in the shoulder, but all the variety of motions of which the fore-arm and hand are capable are preserved, and he is daily acquiring more strength.

I have within the last month seen the man : he is completely recovered, and has the perfect use of his fore-arm and hand.

4, Belgrave Street, Pimlico.

March 27, 1816.