ON
DISARTICULATION OF THE SCAPULA
FROM THE SHOULDER-JOINT,
WITH
REMOVAL OF THE ACROMIAL END OF THE CLAVICLE.

BY
GEORGE MATTHEW JONES, M.R.C.S. ENG. AND EDIN.,
SURGEON TO THE JERSEY HOSPITAL.

COMMUNICATED BY
F. C. SKEY, F.R.S.

Received Dec. 10th.—Read Dec. 14th, 1858.

THE operation which I am about to narrate to the Society, is one which is specially interesting from the fact of its having (so far as I can learn) been but twice performed; first by Mr. Syme, in 1856, and subsequently, as that gentleman informs me, by a practitioner in Ayrshire; but whether this latter operation took place before or after my own I have not ascertained.

In both these cases the patients died within three months of the operation, but not, I am informed, from anything connected with it, death being occasioned by some fortuitous circumstances. The opportunity of proving how far the motions of the arm could be restored was thus unfortunately lost.

Mary Ann C—, æt. 14½ years, had always enjoyed good

health, until attacked by the ailment which occasioned the operation about to be detailed. Her father and mother are living, and in good health; of their children one boy and two girls are alive, and three have died or have been born dead. The survivors are reported to be strong and healthy.

Twelve months ago she felt pain at the top of the left shoulder, which she supposed to arise from carrying a heavy child. Three days after the first attack of pain an abscess formed, which burst spontaneously. The inflammation was most intense over the upper part of the humerus; there was some fulness about the insertion of the deltoid muscle, and some matter escaped from an opening which was nearly on a level with the posterior fold of the axilla.

The constitutional disturbance was severe; but after a long course of tonic treatment and generous diet the general health improved. The opening, however, did not close, and it soon became evident that disease existed in the scapula; there being various small collections of matter which pointed in different directions, and sinuses through which portions of necrosed bone were discharged. It was at this period that I was called in.

I received the foregoing account from her previous medical attendant, and perceiving at once that the case was likely to be one of moment, I advised her becoming an inmate of the hospital, into which establishment she was admitted.

Every endeavour was used to increase the patient's strength, but without success; her health failed rapidly, and I felt that operative interference was imperatively called for. At this time there existed five large fistulous openings over the left shoulder: two communicating with the clavicle, one with the head of the humerus, one with the glenoid cavity, and one with the dorsum of the scapula, and bare bone was easily reached by the probe in each place. Several small fistulæ existed in the scapular region, which did not apparently lead to necrosed bone, but yielded an offensive discharge. The suffering in the shoulder and side was very severe; the textures covering the former were generally thickened, puffy, and tender to the touch. The countenance

was anxious and attenuated; the pulse 100, small and weak; the tongue furred; the bowels generally costive.

On the 10th of May, the girl being placed under the influence of chloroform, I performed the following operation. I first made an incision along the whole extent of the spine of the scapula, carrying it an inch beyond this in the back, then another incision to meet this along the posterior border of the bone down to its angle. The integuments were raised by careful dissection, and the whole bone was fairly exposed. Its periosteal investment was everywhere found thickened and pulpy, and so softened as to yield easily to pressure of the finger.

When removing the bone I carefully detached the subscapular muscle and other structures, and after some difficult dissection I succeeded in isolating the glenoid and clavicular ends of the bone, and removing it entire. The acromial end of the clavicle was found, for an inch of its extent, so softened and altered by disease as to render its removal advisable. Only one blood-vessel, the posterior scapular, required a ligature, several smaller branches being controlled by torsion. The operation occupied three quarters of an hour. Several sutures and straps of adhesive plaster were used to bring the edges of the wound into apposition; the deeper cavities, including those whence the glenoid fossa and angles of the bone had been removed, were plugged with lint. Before proceeding further it will perhaps be better to give a description of the appearance presented by the diseased bone.

The scapula was extensively diseased, and its characters almost destroyed. The glenoid surface and neck were entirely removed, and, with the exception of a small portion externally, no vestige of the spine remained. New osseous matter appeared in the position which the latter had occupied, but in this also necrosis was in progress; a deep fissure and chasm, indicating its former situation, extended across three fourths of the body of the bone. The inferior angle, in which the process of ossification was yet incomplete, was enlarged and hollow, converted, here and there into a tunnel

by overarching growths of new bone, and a large and deep furrow extended from this angle along the whole length of the anterior costa as far as the superior border: it was at one part continuous with the chasm, which has been already mentioned as running across the body, and occupying the site of the spine. The body of the bone presented, further, two deep perforations. From these various cavities sequestra of dead bone were removed: other portions in various stages of exfoliation were found contained therein. The anterior border of the bone presented a considerable amount of new osseous matter. The acromial third of the clavicle was found so soft and disintegrated as to require removal. The head of the humerus was healthy, and covered with its natural cartilage.

On recovering consciousness after the operation, the patient was found to be in a state of complete prostration; she retched violently and vomited, and had constant jactitation, restlessness, cold clammy sweats, and an almost imperceptible pulse. Mustard poultices were applied to the stomach, hot-water bottles to the extremities; stimuli of different kinds were freely administered, iced champagne, &c., but everything was rejected; the vomited matters were even larger in quantity than the fluid imbibed, while thirst was excessive, and the tongue parched and arid. The following day it became necessary to administer frequent enemata of strong extract of beef, with port wine; this system of support was persevered in for three days with apparently very trifling amelioration of the symptoms. At this time I gave two doses of chloroform, of twenty drops each, which procured a trifling relief; but the remedy which at last proved effectual in entirely checking the vomiting, and producing an almost voracious appetite, was the celebrated Jersey soup, made from the conger eel, which is at once nourishing and gelatinous. I have reason to believe that the sickness arose chiefly, if not entirely, from the chloroform; for after her admission into the hospital, she was so extremely nervous and sensitive at any examination of the shoulder, that in order to use the

probe it was necessary, on three different occasions, to put her partially under its influence. This was done each time at a different hour in the day, and equally at all hours was followed by vomiting. If this effect was produced by so small a quantity, we may naturally suppose the much larger one required for the operation calculated to bring about the same effect in an exaggerated degree. It may, therefore, be fairly inferred that to this, and not to the shock of the operation, may be attributed the affection which had nearly brought my patient to the grave.

May 24th, 9 a.m.—Has had several hours of uninterrupted sleep. Pulse still rapid and small; tongue less furred; thirst somewhat abated. The whole of the dressings, being completely saturated, were carefully removed, when it was found that, in consequence of the strain from the constant vomiting, the sutures had all given way, and no adhesion was apparent in any part of the wound. The head of the humerus was entirely exposed; jagged and abraded edges everywhere presented themselves. Ordered, tepid water dressings, to be frequently removed in consequence of the immense discharge. Nutritious diet, with quinine and wine.

25th, a.m.—Has taken much nourishment during the last twenty-four hours. Pulse much the same as yesterday; no restlessness, sickness, or retching. Tongue much moister; countenance by no means expressive of anxiety; the bowels have not acted since the operation; wound very offensive. An aperient enema was ordered to be given on the following morning if necessary, and to the shoulder very weak solution of chloride of sodium to be applied on pledgets of lint.

26th, a.m.—At 8 o'clock a large evacuation was produced by the enema. The night had been tranquil, but without much sleep. Pulse 88; considerable deposit in the urine; tongue improved. Discharge from the wound equally offensive and profuse as yesterday. Having on several occasions witnessed the benefit of an application of the following ointment, I ordered it to be applied on small

pieces of lint over the entire wound, and the whole covered with charpie.

R Cerat. Resinæ, ʒij
Bals. Copaibæ, ʒv
Sp. Terebinth., ʒiij. Ft. ungt.

27th, a.m.—The night has been good. A natural evacuation took place before breakfast. The patient expressed herself as comfortable and willing to eat anything. The urine was clearer; there was a great amelioration in the wound; the discharge appeared much more healthy and less fetid, in quantity much the same. Ordered, long adhesive straps, commencing at the collar-bone, to be passed round the arm and shoulder in order to afford all possible support.

June 6th.—From the last report to the present time a rapid and most gratifying improvement has taken place. Healthy granulations are appearing in all directions; the large vacuum is closing, and the head of the humerus is becoming covered.

It would be equally tedious and unnecessary to give an account of my daily morning visits, which, for the first week, were repeated every four or five hours during each day and night. Suffice it to say, in three weeks and as many days, she was able to leave her bed and walk round the garden, and at the end of another week from the operation she could sew without pain or difficulty; the discharge continued for about six weeks, but rapidly diminished; her appetite was always good, and her craving for food could scarcely be satisfied.

I have not stated the particular food I recommended this patient; suffice it to say that everything that was nutritious was unsparingly given her. Eight glasses of wine, and sometimes more, were allowed every twenty-four hours, in addition to three pints of porter.

At present (November) she can raise her arm twelve inches from her side, and can, with very slight assistance, support it horizontally from the body. She can raise the

hand to the opposite shoulder or to the mouth with ease, but not to the top of the head; she can put her arms behind her, can lift a large and heavy hospital register, and can scrub the floor, or make her bed.

There is a decided falling of the shoulder, but by no means such as amounts to deformity; there is no wasting of muscular substance on the chest or back, and when she is dressed, it would scarcely be apparent that any serious operation had been performed on her. The deltoid is of full size. The cicatrices of two incisions remain, each of about six inches in length. A small old cicatrix also remains over the scapular end of the clavicle. The head of the humerus is easily felt moving freely in its new bed, and not the slightest pain is experienced on any amount of motion. Up to this time the range of this motion has steadily increased, and with the exception of the movements for which the scapular origin of the deltoid is indispensable, it may be confidently expected to increase still further, and nearly to equal that of the other arm.

The conclusion at which I have arrived from the account of Mr. Syme's case, as well as from my own experience in the present instance, is that the danger from hæmorrhage is much less in removing the whole of the scapula than, as in the case recorded by Mr. Liston, in the removal of only a portion; and in future no doubt would exist in my mind as to which would be the preferable operation, should the necessity for either come again under my notice. It may be remarked that in Professor Syme's case the progress towards recovery commenced much earlier than in my own; his patient, however, had the advantage over mine in the previous state of the limb. I had to contend with numerous sinuses, nasty sores, and decayed portions of bone, so that when the incisions were made they presented jagged instead of smooth edges, the whole being in fact a disorganized mass, while the surfaces in Mr. Syme's case were comparatively healthy.

DESCRIPTION OF PLATE I.

The bone is seen on its dorsal aspect, but slightly turned, in order to give prominence to the inferior costa.

The structure of the whole bone, particularly in its front, is swollen and spongy, the consequence of increased activity of growth for replacing the necrosed portions by new bone.

Along the inferior costa, and reaching beyond the upper part of the scapula, an elongated, hollow case or shell of bone may be observed. Its extent and direction are indicated by a piece of whalebone, one end of which is marked A, and the other A*, passed along it. The shell formerly encased original bone, in the state of necrosis, and has been formed by the separation and expansion through the process of new growth of the two laminæ composing the scapula. Near the former site of the glenoid cavity and cervix, a part of the interior of the case has been exposed to view, owing to the walls having been partially absorbed, and a cloaca thereby formed, at that part.

B.B'. Whalebone passed through a cloaca, which conducts into a short branch, or irregularly expanded portion of the above-described cavity.

c. A wide gap, extending about two thirds across the body of the scapula, in the part formerly occupied by the spine; which, except a small portion of its root in front, has been destroyed by necrosis.

The fragments arranged round the principal figure, fourteen in number, are the various sequestra.