SUCCESSFUL RESECTION OF THE SHOULDER-JOINT IN A CASE OF GUNSHOT WOUND.*

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BETWEEN six and seven o'clock on the evening of April 12th, 1871, when reposing at home after a long and anxious day's work among my wounded, I was summoned to the Ambulance Anglaise to receive four soldiers of the Commune, who had been wounded an hour or two previously at the bridge of Neuilly. Within two minutes, I was beside my new patients; for the Ambulance Anglaise (entirely maintained by Sir Richard Wallace) was installed in a spacious mansion and garden close to my house. One of the new comers was Alphonse Brunet, a strong muscular man of communistic type, thirty-four years of age. By trade, he was a mason. The exigencies of the Franco-German war had made him a soldier; and the civil war had more recently made him one of the pseudo-military masters of Paris.

On my arrival, I found him yelling lustily, and evidently suffering intense pain. Experience justified me in attributing his noisy violence more to alcoholic preparation for fighting, than to the wound which he had just received. Like many of our wounded of the second siege, he came to us in an almost frenzied state, the result of alcoholic excesses, bodily pain, and a peculiar form of mental excitement engendered by the desperate game which all knew had to be played out to a terrible end. It was not without difficulty that Brunet was undressed and put to bed. He had to be held down by infirmiry men, whilst I examined his wound. The whole hospital was disturbed by his noise and cries.

I found that a rifle-bullet had entered from behind, at the top of the right shoulder, and had made its exit in the anterior aspect of the upper third of the arm, smashing in its trajet the head of the humerus and the upper part of its shaft. This information was at once obtained by introducing the little finger into the wound. In very recent gunshot wounds, although the hole made by a Chassepot bullet is small, finger exploration can often be made either with or without enlarging the wound. There is no probe equal to the finger, when the wound admits of its being used.

The patient at once consented to amputation, or any other operation which I might deem necessary, provided it relieved him from pain. Lack of daylight, and my own state of fatigue constrained me to postpone the operation till the morning. At that period, moreover, I had to perform operations under great difficulties. I could only command one assistant possessing any professional training—my son, Mr. J. R. Baillie Cormack, who during the German siege had served in the American Ambulance, till it was closed on March 1st, when he came to the Ambulance Anglaise.

I left the patient (about eight P.M.) having administered to him a grain of opium, and directed another grain to be given at midnight should he then be noisy or sleepless. It was found necessary to give the second grain at midnight. At the commencement of my visit at seven next morning, I saw the patient. He was tolerably calm. He was reported to have slept very little, if at all, during the night. He complained of intense pain in the shoulder and arm; and objected to the slightest examination of the wound being made till he should be put under the influence of chloroform. I agreed to act in accordance with this wish. At nine o'clock, on a beautiful sunshiny morning, the patient was carried from his bed to an adjoining room, and placed in an easy position on the operating table in front of two large windows. My friend, and near neighbour, Mr. Falconer Atlee, Her British Majesty's Consul, kindly responded to my appeal, and came to aid us as he had before done in similar circumstances. Taking a deep interest in surgical proceedings, and doing exactly what he was appointed to do, he made a most efficient and reliable assistant in such emergencies. As the operation was likely to be of long duration, and from the patient being already considerably narcotised by opium, as his contracted pupils showed, I directed my son to give the chloroform very cautiously and slowly, which he did by placing near the patient's mouth a napkin folded as a hollow cone containing within it a small quantity of chloroform. The time occupied in bringing the patient fully under the influence of the vapour was twenty minutes. He gently passed into complete anæsthesia, after a short stage of subdued talkative delirium. Mr. Atlee then took charge of the chloroform, allowing the vapour to be inhaled at such intervals, and to such an extent, as was sufficient to keep up, without dangerously

increasing, the narcosis. At the first plunge of the knife, the patient moaned slightly, but during the whole operation, which lasted forty-five minutes, he remained quiet and motionless, with normal pulse and respiration. He was not at all roused by removal from the operation table; and remained in a profound sleep for half an hour after he was replaced in bed. On awaking, he was quite free from pain, and spoke to me very pleasantly, expressed satisfaction that his arm had not been amputated. He did not seem to be the same man who had been so unruly and noisy on the previous night.

In severe gunshot wounds, it is of immense importance to bring the patients, with the least possible delay, under the obtunding influence of opium; and, sometimes, to maintain them for days under that influence. It is, of all the drowsy drugs, the most valuable in such cases. To use it skilfully, cautiously, very watchfully, is often to secure recovery from the most terrible mutilations of war—provided there be a possibility of recovery. It not only removes pain and calms the nervous system, but it likewise, in a marvellous manner, sustains the vital powers.

From their position, neither of the two apertures made by the bullet could be utilised in the operation. I, therefore, made a single longitudinal incision at the outer side of the joint, through the deltoid and in the course of its fibres, exposing well the bone. Three small arteries had to be tied. There was no troublesome bleeding. Notwithstanding the muscularity of the patient and the depth of the incision, I got a good view to the bottom of it. Having dislocated the head of the humerus, I dissected out the pieces—more than twelve in number—of the smashed head and shaft. I then examined carefully with my fingers the irregularly fractured end of the humerus, pushing and pulling each of its jagged points, so as to enable me to determine whether the shaft was or was not split down towards the elbow. In musket-ball wounds, it is not always easy or possible to determine whether a long bone is or is not split, because a longitudinally fractured shaft may be maintained for days in an apparently unfractured state by the periosteum and surrounding tissues. Having come to the conclusion that the remainder of the shaft was sound, I resolved to try to save the arm; and, therefore, forthwith proceeded to complete the operation by removing the irregular end of the bone. My son grasped the arm a little above the elbow, and so manipulated it as to push the bone through the incision, whilst I, holding the extremity to be removed in my left, used a small saw with my right hand. The arm which had been operated upon was then flexed at the elbow, and laid across the chest. It was securely, but with very little pressure of bandages, attached to a concavely moulded oakum-padded pasteboard splint, so that it might be easily examined during the day without occasioning pain or displacement. Cold water dressings were applied by means of light compresses, and were diligently continued during the day. There was a considerable sanguineous oozing for some hours. In the evening, the cavity was syringed with creasote-water, when five or six minute pieces of bone, not much larger than pinheads, were washed out. More solid bandaging was then adopted, and a grain of opium was administered when the night-nurses took charge at 9 P.M.

I ought to mention that, with the exception of two or three cups of cold beef-tea during the night, the patient had no food of any kind from the time he entered the ambulance, at or about 6 P.M., till near noon next day, on his thoroughly emerging from his chloroform-sleep. He then had, at his own request, a basin of milk-coffee, some bread, and a small glass of brandy.

Immediately after the operation, the patient was able to move his hand, the thumb and each finger; he could also squeeze tightly with the hand. Sensation in arm or hand was never in the slightest degree impaired.

For a few days, half a grain of opium was given night and morning; great attention was paid to digestion and alimentation, the latter being generous. By means of a sufficiency of properly placed oakum, the purulent discharge, which soon became very profuse, was removed every three or four hours, the more thorough washings and dressing with creasote-water being performed once in the twenty-four hours. The wound very soon showed a disposition to contract and close. Unfortunately, it was allowed nearly to close about a fortnight after the operation. At that date, everything seemed to be going on well, when he was suddenly seized with rigors, and there was great tension and tumefaction in the right mammary region. To this region, large poultices were applied. Tincture of cinchona was freely administered. In two or three days, an abscess had declared itself in the upper and anterior aspect of the right side of the chest. When pressed upon, a fulness was perceived in the axilla, and pus was caused to flow from the re-opened operation-wound. Free incisions were made, and drainage-tubes were introduced, so as to prevent matter from accumulating in the axilla, or elsewhere in pouches. This state of matters rendered the daily dressings most tedious and troublesome, but, after a short period,

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did not apparently interfere with his general well-being. He was keenly alive to the exciting rumours and incidents of each day, slept well, and fared generously. This internal medication was slightly varied from time to time; but his principal medicines were iron, gentian, cinchona, and rhubarb. Occasionally, he had a few grains of grey powder and a smart saline cathartic.

On May 28th, he was out of bed for some days. On and after the 31st of that month, he was in the habit of spending several hours daily sauntering and sitting in the garden. He had, however, after that date, occasional suppurations near the seat of the operation; and several times minute scales of bone were detected in the matter which came from the partially healed operation-wound. So late as February 1872, he had an abscess in the arm, when I removed with the forceps a small piece of necrosed shaft of humerus. Since that date, the cicatrization has been solid and complete.

Exactly one year after the operation—that is to say, on April 12th, 1872—I had the photograph taken which I now exhibit. He was then, as he is now, August 1874, in excellent health. You will observe that he is holding the removed portion of the humerus—three-and-a-half inches in length—in the hand of the operated arm. The fragments have been joined together, as you now see them in the preparation now submitted to your inspection. He can make good use of his arm in many ways. He can lift with it great weights, such as large pails of water and baskets of coal; he can write and work a sewing-machine with it. He can place the palm of the hand on his forehead. To the casual observer, he can do everything with his arm which others can; but it is not so; he cannot stretch the arm outwards far from his side. The false articulation is marvellously strong and flexible. There is not the slightest atrophy of any of the muscles, except the deltoid, which is much smaller than that of the opposite side, though now it has not nearly so wasted an appearance as it had twelve months ago.

I need hardly say that Brunet did not remain under my care till April 12th, 1872, the date of the photograph. In the preceding August, when our Ambulance was closed, I tried, without success, to prolong his stay at Sir Richard Wallace's temporary convalescent-house at Levallois-Perret, then in use for the remainder of my wounded; and, after several prolongations of his residence with us, I was obliged to deliver him over to the authorities, a medical inquiry by them having resulted in an official letter to me, stating that he was quite well and must be removed forthwith. He was imprisoned for some time, and then tried by one of the courts-martial installed for many months at Versailles. He was, for reasons not disclosed, acquitted without the infliction of any punishment. On the day of his acquittal, his wife and he came to see me. As he entered my consulting-room, I expressed my surprise at seeing him, saying that I thought he had been, or was to be, shot. He replied: "I expected either to have been shot or banished for life; but, a few hours ago, the *conseil de guerre* dismissed me without even a scolding, and without calling for the evidence against me." I may add, that he has at last got occupation as a door-keeper, and has retrieved his character. He lost situation after situation on its transpiring that he had on him the war-brand of the Commune.

CASE OF MEDIASTINAL SARCOMA, SIMULATING "CALLOUS MEDIASTINO-PERICARDITIS".

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THE following case of mediastinal sarcoma deserves to be recorded both for its own interest as a somewhat unusual form of intrathoracic growth, and also for the resemblance which it bears to the affection first observed, I believe, by Griesinger,* and further described by Kussmaul, under the name of Callous Mediastino-Pericarditis.

The patient was a girl, named Davidson, who was admitted some time ago into the Leeds Infirmary under my care. Her illness on admission was so great that Dr. Barfoot, then house-physician, sent for me to see her as soon as possible. His own first impression was that there was extensive effusion into the pericardium and the pleural cavities, and that tapping of one or more of these cavities should be practised forthwith. This impression seemed to me on the first view of the case to be just. The girl had not the aspect of one worn out by prolonged cachexia, but rather of one suffering under the pressure of an acute disease; and she had the præcordial anxiety, the pallor, the distress, and the fear of movement which are often seen in pericardial

effusion. We learnt that her father and mother were living and well, but that a sister had died of phthisis at the age of 21. The patient was aged 16, was a weaver, and had always enjoyed good health, save an attack of small-pox when young. On Shrove-Tuesday, she caught cold by going out to "play at skipping" with her hair wet. A bad cough followed the cold; and, as she did not improve, the mother feared she might run into a consumption like her sister. She took her, therefore, to two medical men, who told the mother her lungs and chest were unaffected. But the girl's breathing became very short, and she grew altogether worse; and, for a month previous to admission, she had been unable to lie down on account of great dyspnoea and palpitation. She had never complained of pain at any time, but said that "if she could only get her breath, she would soon be well". She was admitted on May 9th, 1874, and was of delicate appearance with dark hair and eyes. The superficial veins of the neck were prominent, and she had the distressed aspect already described. When we came to examine her carefully, however, we found that, although there was considerable dullness in the middle of the chest, yet the distribution of it forbade the inference of pericardial effusion. Taking the base line of dullness from the lower edge of the liver and heart, it extended upwards all over the front of the chest, leaving only a triangle of resonance at the upper and outer corners. The two outer thirds of each clavicle might be taken as the upper side of an equilateral triangle of comparative resonance on each side. All beside was dull, and the dullness reached about an inch beyond the mammary line on each side. On the left side of the chest, however, there was another district of dullness continuous with the former and clearly corresponding to a small pleuritic effusion. The pulse was small, rapid, irregular, and sometimes intermittent. The respiration was very shallow and frequent; so much so, that it was impossible to say whether inspiration had any effect upon the fulness of the jugular or upon the radial pulse. We thought it desirable to attempt to relieve her for a while by tapping the left pleura; and fourteen ounces of clear fluid were, therefore, taken away from that cavity by the aspirator. She died, however, fifteen minutes after the operation.

As regards the diagnosis of the case, I thought that it closely resembled the affection to which I have already referred, namely, "callous mediastino-pericarditis"; an affection which I only knew from a description of it in the *London Medical Record* (December 17th, 1873), taken from a paper by Kussmaul, in the *Berliner Klinische Wochenschrift* (Nos. 37, 38, 39, 1873). The diagnosis lay, of course, between this and a more common kind of mediastinal tumour. It was found to be a diffused sarcomatous growth or thickening, closely resembling the disease described by Kussmaul, and attaching the sternum to the aorta, though not lessening the lumen of that vessel, as in Kussmaul's cases. The early death prevented our having the opportunity of fairly seeking for the "paradoxical pulse", or for respiratory influence upon the jugulars. It is probable that a diagnosis between the two conditions might be impossible; fortunately, it is of little practical importance. For an account of callous mediastino-pericarditis and its curious symptoms, I must refer the reader to the *London Medical Record* (*loc. cit.*); I have only space to subjoin the description of the parts removed from the chest, which I placed in the hands of Mr. Greenwood, the resident curator at the Leeds School of Medicine.

The specimen consisted of the thoracic viscera removed *en masse*. The pericardium had been opened. There was enormous dilatation and thickening of the pericardium, due to a firm yellowish homogeneous-looking growth, occupying the anterior mediastinum and reaching above to the thyroid on the left, and to the diaphragm below on the right. The chief mass of the tumour was situated in front of and around the base of the heart, completely embedding the great vessels at the root of the neck and the arch of the aorta, and closely adherent to them, but not seemingly contracting their calibre, though they were rather small, the descending aorta especially so. The tumour blended insensibly with the pericardium, which gradually thinned out to each side and behind to nearly the normal thickness. In front, it had evidently been adherent to the sternum and costal cartilages for a considerable breadth, and had been continued along the pleura costalis. Below, the adherent diaphragm showed several nodules of similar structure. The enlarged pericardium formed a nearly globular sac, flattened below where it rested upon the diaphragm, and about eight inches across. Its lining was more opaque than natural. The heart was small, flabby, and pale. Along its anterior borders and near the base were several nodules of the new growth, on incision evidently infiltrating its muscular tissue. The lungs, which had evidently been laterally displaced, were small and almost airless, with the exception of their apices. Around their roots, and extending along the vessels and bronchi, and the edges of the lobes for a short and variable distance, was the same sort of tissue as in the mediastinum. The microscopic appearance of the growth was that of small round cells, with no fibrous stroma, and very little intercellular

* I find no notice of it in Griesinger's collected works, edited in 1872, 2 vols.