A CASE OF GUNSHOT-WOUND OF HEAD : EXTENSIVE LACERATION OF SCALP : FRAC- TURE OF SKULL : EXFOLIATION OF BONE : RECOVERY.

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Miss R., aged 17, a girl of rather delicate constitution, while visiting in this neighbourhood, received a severe gun-shot wound of the head under the following circumstances.

At noon, on June 26th, 1869, she was sitting near an open window reading, when a little boy eight years old, having, in the absence of the master of the house, obtained possession of a gun, which was kept loaded with peas for the purpose of frightening the birds, pointed it in play through the window, saying, "I'll shoot you". He immediately fired, and the charge took effect in the left side of the poor girl's head, plunging up the scalp to a fearful extent. Some portions of it were completely detached, and were afterwards found, with the hair attached, adhering to the opposite wall of the room near to the ceiling. In the same situation were observed many indentations made by the peas, whilst on the floor were several of the pieces of paper with which the gun had been charged, blackened and smelling strongly of recently exploded gunpowder. The wound bled very profusely. She was immediately carried to bed, and her head bound up by the servants; the master and mistress being from home at the time of the accident.

I saw her about an hour after the receipt of the injury. She was then faint from shock and loss of blood; but appeared quite conscious, although unable to articulate. On examination, I found that the scalp on the left side of the head was completely detached, torn into shreds and ragged flaps, and turned back so as to expose nearly the whole surface of the parietal bone. The finger could also be passed nearly its whole length underneath the scalp, almost all round the actual wound, particularly at its upper and posterior borders, showing how extensively it was separated from the cranium. After turning out a large clot which had formed in the lower part of the wound, profuse arterial hæmorrhage occurred. This, I found, proceeded from the interior of the skull through a fracture about three-fourths of an inch long, situated near the anterior inferior angle of the parietal bone. The lower edge of the fractured bone was depressed to the extent of one-third of an inch below the natural level. A director could easily be passed through the fracture for an inch along the under surface of the bone in a direction backwards and upwards. Exposure of the wound to the air and bathing it with cold water failing to arrest the hæmorrhage, I plugged the opening in the skull with a strip of lint; introducing it, by means of a director, in a direction backwards and upwards in the course of the grooves from the middle meningeal artery, which appeared to me to be the source of the bleeding. This proceeding effectually checked the hæmorrhage externally.

I now discovered that about two square inches of the centre of the parietal bone were completely denuded of pericranium. This circumstance, together with the great loss of substance in the scalp, which rendered it impossible to cover the exposed bone with the flaps, led me to anticipate some exfoliation. I had, therefore, to content myself with approximating the flaps as best I could. The wound was dressed with wet lint, and the patient placed on her right side, with her head somewhat raised. She vomited several times during the dressing, and the faintness and inability to articulate continued.—8 P.M. She had had some quiet sleep. The surface of the body was warm; pulse 80, small, but steady; the vomiting continued; she had passed urine. She put out her tongue when asked, but it was protruded to the right side. She was still unable to speak intelligibly, though perfectly sensible. The pupils acted naturally, but there was double convergent strabismus. This, I ascertained on inquiry, had existed from childhood. There was evident deafness, particularly on the left side: the last symptom might probably be attributed to the loud report of the gun discharged at so short a distance from the ear. There had been no further hæmorrhage from the wound.

June 27th, 9 A.M. She had a little sleep during the night. Articulation was much more distinct; but she spoke like one intoxicated. She said that she never entirely lost consciousness from the moment of the accident, and remembered everything which had occurred since.—12 noon. I had a consultation with my brother, Dr. E. T. Tylecote. The symptoms had undergone very little change, except that the skin was hotter, and the pulse 100, small, and intermittent. The bowels had been twice moved, and the bladder relieved. On removing the dressing, the wound looked very well; the flaps being in good position, and lying closely in contact with the bone, about two square inches of which were still exposed. Two layers of lint soaked in carbolic oil,

one part to thirty, were applied and directed to be kept saturated with the oil; a saline effervescing draught was ordered to be taken every three hours, and the diet to consist of milk and beef-tea; the room to be darkened and kept very quiet.

June 28th, 10 A.M. She slept quietly part of the night; was perfectly sensible, and had had no delirium. Skin cool; pulse 75. The hearing was improved. She complained of frontal headache and intolerance of light. She vomited twice during the night; her bowels acted once slightly this morning. The outer layer of lint was removed, and a fresh piece applied without uncovering the wound. There was no tumefaction of the scalp around the wound.

June 29th. Articulation was more distinct; pulse 80. She still complained of headache, and preferred lying with the eyes closed. The bowels had not acted since the previous day; an aperient draught was therefore ordered. The wound was dressed as before.

July 1st. There had been no action of the bowels, although cathartic draughts had been given; and the stomach had rejected the medicine. An enema of oil and turpentine was ordered to be administered immediately, and repeated if necessary. The second enema acted twice copiously.

July 2nd. The headache was relieved; the pupils acted freely, and there was less intolerance of light. The tongue still inclined to the right side when protruded. Articulation had again become very indistinct. She complained of soreness round the wound. The dressing in contact with the wound was removed for the first time. Notwithstanding that the wound had somewhat diminished in size, the raw surface still measured three inches across both transversely and longitudinally. The surface and edges of the wound were rather ash-coloured; and one narrow tongue of scalp seemed inclined to slough. There was no undermining of the scalp; on the contrary, that part which was originally detached had become closely adherent. The denuded portion of bone had a dry, white, glazed appearance. There was a discharge of grumous matter, which was not at all offensive. Carbolic oil-dressing was again applied, and ordered to be changed night and morning. An enema was ordered to be given whenever the bowels were confined.

July 3rd. Articulation was again improved, but there was an accession of feverishness; pulse 100; temperature 102 deg. She had a short, loose cough; but there was no indication of lung-mischief beyond slight pulmonary catarrh, caused probably by the clothes being saturated with water at the time of the accident in the attempt to stop the bleeding. The wound was discharging freely.

July 4th. She had rested comfortably, and spoke more distinctly. She was able to keep her eyes open in the darkened room. Pulse 104; temperature 101 deg. The wound was rather cleaner, and granulating. The discharge was abundant.

July 5th. She was much the same; pulse 104; temperature 102 deg.; wound cleaning. In the evening the pulse had risen to 120, possibly through excitement consequent on the visit of a friend. The bowels not having acted during the day, an enema was ordered.

July 6th. She was much calmer; pulse 112; temperature 99 deg. As the enema of the previous evening had not acted, it was ordered to be repeated. A small slough had separated from the edge of the middle flap; about half-an-inch more remained to be detached. The diet was now milk, broth, eggs, and light puddings.

July 8th. Pulse again 120, and weak; temperature 97.3. The wound was looking healthy, and the slough separating. The lint, which had been inserted within the cranium to arrest the hæmorrhage, was appearing at the lower edge of the wound. As it did not yield when pulled strongly with the forceps, I did not persist in the attempt to extract it for fear of a recurrence of the hæmorrhage.

On the 9th and 10th, the pulse varied from 104 to 120. She protruded the tongue naturally and spoke distinctly. The wound was free from slough, contracting and granulating nicely. I cut away the lint close up to the fissure in the skull, where more could be seen, and from which a sanious discharge exuded, mixed with bubbles of air, and pulsating synchronously with the brain.

July 24th. The wound was contracting and granulating round the edges. The exposed bone might now be covered with a crown-piece, and was of a pinkish colour at its upper part, as if granulations were springing up over it, the remainder being still white and dry. I let out a small collection of pus from under the scalp near the posterior border of the wound. She was ordered to take a dose of compound rhubarb-pills occasionally.

August 7th. The bowels now acted spontaneously. The wound had filled up considerably, the bare bone not exceeding the size of half-a-crown. I brought away more of the lint, and again cut it off close to the fracture.

August 26th. Half-an-inch more of the lint came away. The overhanging upper edge of the fracture was now distinctly visible.

August 30th. I succeeded in bringing away the whole of the lint from the fracture, in which it had been imbedded for two months. I gave permission for the patient to be taken out of doors.

September 10th. The granulations were exuberant, requiring to be touched with nitrate of silver. The bare bone in the centre of the wound continued dry, and was becoming brown. There was an abundant discharge of pus from the lower part of the wound, the seat of the fracture.

September 20th. The exposed bone was evidently loosening, being pushed up by the growth of the granulations beneath.

September 23rd. With dressing-forceps, I removed three pieces of exfoliated bone (Figs. 1 and 2). One of them, of irregular shape (Fig. 1), was about two inches in horizontal, and about an inch and three-quarters in vertical diameter. The temporal ridge was very distinctly seen crossing the middle of this portion.

October 16th. The size of the wound was much diminished; but it was still prevented from healing by more necrosed bone, which was removed, and proved to be an inch and a quarter long and a quarter of an inch thick at its thickest part. It involved the inner table at each extremity, the smaller end being distinctly grooved for the meningeal artery (Fig. 3).

Fig. 1.

Fig. 2.

Fig. 3.

On November 6th and 11th, I removed two more small pieces of bone. On December 4th, she returned home in perfect health, with the wound healed to the size of a sixpence. A large bald patch, considerably depressed below the level of the surrounding parts, indicated the great loss of substance which had resulted from the injury.

April 23rd, 1870. I heard that the wound finally healed at the end of December last, and had continued sound since.

On reviewing the foregoing case, there appear to me to be several points in its history deserving of notice.

1. There was a remarkable immunity from cerebral disturbance; the only symptoms referable to this cause being slight deafness, intolerance of light, deviation of the tongue to the right, and indistinct articulation. This difficulty of articulation was, I think, due to a want of control over the organ of speech from paralysis, and not to any lesion of the third left frontal convolution, or plugging of the middle cerebral artery; as there was not so much a difficulty in finding words to express her ideas, as an inability to articulate them distinctly. I regret to say that her ability to express herself in writing was not tested at the time.

2. There was a complete absence of erysipelatous inflammation, and consequent burrowing of pus, detachment of the scalp, and extensive sloughing.

3. No bad consequences resulted from the depressed bone, and the introduction within the cranium of a strip of lint nearly three inches long for the purpose of arresting the profuse arterial hæmorrhage.

4. The strabismus, which might have had more importance attached to it than it deserved, had its true significance assigned to it by the discovery that it had existed from childhood.

5. The healing of the wound, retarded by the extensive exfoliation of bone, which involved the whole thickness of the outer table, with portions of the diploë, and at the seat of the fracture a small extent of the inner table, as shown in the piece of bone extracted on October 16.

The treatment of the case requires very little comment. The symptoms were never such as to warrant any interference with the depressed bone. Little was done beyond keeping the patient perfectly quiet in a darkened room, relieving the constipated bowels by enema, which answered better than purgatives by the mouth, on account of sickness, and giving a mild, nutritious, unstimulating, diet. The only dressing to the wound after the first day was carbolic oil—one part to thirty—an application which I have always found very efficacious in injuries to the scalp. One fortunate circumstance in the treatment

of the case was, that the hæmorrhage, when its egress through the fracture was arrested, did not go on internally, and thus produce fatal compression.

RECOLLECTIONS OF THE MEDICAL SCHOOL OF VIENNA.

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I.

THE custom for English medical students or graduates to spend some months on the continent, is one so excellent and useful that we could wish it were more common. In this respect, progress has not kept pace with the increased facilities of communication. The Americans, of course, far surpass us in their zeal for travel; and even the Germans seldom think their education complete till they have visited one or two universities besides that in which they have graduated. The English student, on the other hand, rarely has sufficient enterprise even to migrate from one part of London to another; and if his home experience be really confined to one school out of eleven in a single city, he must need, above all others, the wider field of observation given by foreign travel. Moreover, it has been too much considered *de rigueur* to spend a session in Paris; and, as this usually exhausts the time assigned to travel, the student gets no further. Paris has indeed been closed to us by lamentable circumstances; and we should not choose such a moment as this to depreciate in the least degree a city which has so many claims on the sympathy and gratitude of the students of all countries; but the seeker of medical knowledge will not lose if he have to go to Germany instead. The language is, of course, an obstacle. We all know French—as we think; we certainly know our ignorance of German; but the student or his friends must only make up their minds to six months instead of three, or twelve months instead of six, until at least German is more generally taught in our schools. Germany, too, presents another difficulty in the competing claims of so many universities. Paris is always France, but what is the capital of Germany? This is a question which we cannot pretend to answer; but we think we may do a service to the travelling student by pointing out what solid advantages can be got at one at least of the German universities.

For strictly professional knowledge, no serious student will ever regret having gone to the University of Vienna. At a distance, people are apt to depreciate this famous school. At Berlin they speak of the Vienna School of Medicine always in the past tense. At Leipzig, at Munich, at other universities where the sciences accessory to medicine are studied with admirable zeal and magnificent appliances, they will tell you that Vienna may be very good for "practice", but in science it is nowhere. Nevertheless, we think that any candid student, native or foreign, who pays more than a flying visit, and takes the trouble to know intimately the varied resources of instruction offered by Vienna, must come to place the school above Berlin with her distinguished names, or Paris with her great traditions. Of Paris, we will only say enough to justify this strong assertion. As compared with Vienna, it has the great drawback of not being in Germany. Germany is, at the present moment, that part of the world in which anatomy, physiology, and their applications to medicine, are studied by the largest number of persons with the greatest energy, and therefore with the greatest success. Of the results of German labours in this field, the older teachers of the Paris school are most strongly and unfortunately ignorant. It is true that there is a younger school whose writings have given occasion for the epigram, that a French book may be known by the number of German quotations; but, while the French character and traditions remain the same, it will always be the exception to find a distinguished Paris teacher who is prepared to learn from the foreigners instead of instructing them. This, then, is the first drawback to the Paris school. The second drawback may seem a trifling one, and yet is not unimportant. In Paris, the numerous and splendid hospitals, so admirably conducted and so generously opened to the students of all nations, are, for good and sufficient reasons, scattered all over the city, and, as the lectures and clinics of most of the teachers take place at the same hours, some must be sacrificed. In Vienna, on the other hand, all the important medical institutions are within a very small area, and the teachers, for the most part, accommodate their hours so as not to