IV.—SURGICAL EXPERIENCES IN THE ZULU AND TRANSVAAL WARS, 1879 AND 1881.

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(Continued from page 151.)

Case IV.—Private J. S., of the 58th Regiment, was hit, at the Majuba Hill, in the left ankle. The bullet entered two inches above the outer ankle anteriorly, and made its exit at the inner edge of the tendo Achilles, near the inner malleolus. With the exception of some gritty bony material coming away in the discharges for a few days, there was no other evidence of injury, and the wound healed up rapidly without leaving any impairment of movement of the joint behind.

Case V.—Captain L., of the 58th Regiment. This officer was hit twice,—the only case of the kind which occurred at Ulundi,—in the arm, and in the ankle. He wore a pair of leather gaiters over his boots. On taking these off, the internal malleolus of the left ankle was found swollen and exceedingly tender. A very small opening existed, though none could be found in either boot or gaiter. A probe found a small splinter of the end of the bone broken off and loose. The joint soon got very much swollen, and evidence of suppuration being present, I had to freely incise the tissues, giving freedom to a considerable amount of pus. Poultices were then kept regularly applied. For quite a year afterwards this patient limped when walking, but nothing serious occurred to the joint afterwards, which is now sound and
Well. This was a case of the usual gunshot injuries met with in Zululand, round balls fired at long range, with little ammunition to propel them. The gaiter and boot saved the ankle. Had he not been mounted, I should have thought it likely that the injury was inflicted by a spent bullet.

Case VI.—No. 1393, Private W. W., of the 3rd 60th Regiment, was wounded at the battle of the Ingogo. The bullet entered the left ankle at the outer malleolus posteriorly, apparently traversing the ankle-joint, and making its escape close to the inner malleolus. The whole foot, but especially the joint, was much swollen when on the 18th March I first took charge of him, and he had no power whatever in his toes. The wounds were open and discharging. The foot drooped, and was almost in the same line with the limb. I put it up in a wire splint, supporting the foot and keeping it at its proper angle.

1st April.—Immensely better; swelling going down and the suppuration stopped; wounds nearly healed.

7th April.—Wounds healed. Took the foot out of the wire splint and put it up in dextrin bandages, and allowed him to go out of doors on crutches.

27th April.—Patient to-day was afraid his ankle had become worse, and that it was again suppurating. I therefore removed the dextrin support, and found that such had not occurred. The swelling had all gone down, and there was no tendency to the wounds opening again. This case progressed most satisfactorily, though at first sight it looked very like one that would not get well with such simple treatment.

Case VII.—No. 2103, Private G. W., of the 3rd 60th Rifles, was hit, at the battle of the Ingogo, in the left ankle. My confrère, Surgeon L. B. Ward, asked my opinion about the case, which was under his care, and we made out the following:—The bullet had entered one inch below the left internal malleolus, and made its exit a little below the external one. The tarsal bones were rattling about like a bag of marbles. On probing it was found that the tarsal bones as well as the joint were destitute of cartilaginous covering, and the suppuration and swelling, as well as pain, were excessive. Amputation at the ankle was performed by Mr Ward, I acting as assistant. The rules and incisions taught by Mr Syme were faithfully adhered to, and the stump dressed with oil-silk, tenax, etc., as recommended. The operation was done on the 14th April. The stump had healed, and the patient was out of doors enjoying the cool fresh air, sitting in a chair, on the 3rd of May. An excellent stump resulted.

Of injuries to the foot the following may serve as illustrations:—

Case VIII.—No. 999, Private R. M., of the 94th Regiment, was wounded at the engagement of Ulundi, while in the middle of the
square. The bullet passed through the toe of his boot, entering the inner side of the matrix of the nail of the large toe of left foot, passing along its side into the sole of the foot, tearing up the tissues of the arch of the foot, and forming a wide, gaping wound, and lodging in the inner side of the os calcis without fracturing it. From this bone, after using considerable force with the lever, I extracted it, and the case did exceedingly well. This case presents several points of interest,—the small entrance wound, the absence of any open track as far as the commencement of the plantar arch, and the presence from that locality, along the whole curve, of a wide, gaping furrow, and the lodgement of the bullet in the os calcis. The bullet, a well-preserved Enfield rifle one, must have passed into the toe in its normal axis of flight, and, when it lost part of its momentum, must have somewhat changed it in passing along the plantar arch, and then lodged. Such injuries to the os calcis, unless freely drained from the commencement, really are more serious than one would at first believe. Bones of this nature readily take on internal carious action, and what was quite local becomes much extended and more severe. This case, for example, did well; the next one did not.

Case IX.—Private T. T., of the 58th Regiment, was hit, on the Majuba Hill, in two places, the abdomen, as already recorded, and foot. The former was a penetrating wound, and was followed, after healing, by partial paralysis of the limb. The patient stated that when in the act of running he was hit in the heel, the bullet passing from the outer to the inner side of the os calcis, near the insertion of the tendo Achilles. On probing, a large number of sequestra were found. The wounds were discharging very foul pus, and the patient was suffering from hectic and great nervous excitability, being quite maniacal when his wound was being examined.

16th April.—Under chloroform I removed numerous loose lying pieces of bone. I, however, found, after doing this, that the whole of the surrounding tissues were soft and carious. I therefore determined to remove whatever there was necessity for, and gouged for over fifteen minutes, and was unable to come on healthy bony tissues. Finding this, I made an incision from the tendo Achilles down the centre of the heel to the end of the os calcis, and excised the bone. A great deal of venous oozing succeeded. Case went on favourably.

19th April.—The temperature rose alarmingly to-day to 104° F. The foot became red and swollen, and a very abundant and purulent discharge came away from the wound. Charcoal poultices freely applied.

20th April.—Symptoms of blood-poisoning developed, and continued for several days to increase.

2nd May.—The above not diminishing, and the wound being very purulent, amputation of the leg at the lower third was resorted to.
The stump was dressed in the manner recommended. The articulations of the astragalus and cuboid bones were far advanced in caries, and the ankle-joint itself was a huge collection of pus.

5th May.—Very little discharge; flaps healing, and patient very much more cheerful.

7th May.—A restless night. Had a severe rigor, followed by profuse perspiration. A large bed-sore formed over the sacrum.

10th May.—The bed-sore sloughed, leaving the sacrum quite bare of its natural coverings. Patient very weak.

28th May.—After a prolonged struggle for life, he died from exhaustion. This case was treated in a bell tent.

**Gunshot Wounds of the Thigh.**

Except penetrations of the body cavities, by far the most serious injuries the field surgeon is called upon to treat are those of the thigh in which there is shattering of the femur. Surgeons have formed various opinions as to the proper method of treatment to adopt in such cases. In wars in civilized countries, where there are towns near most battlefields, and good roads along which to convey such serious cases, they have a much better chance of being soon placed in a position where rest is possible, and are therefore more likely to recover. In South African warfare how different is the case! As in gunshot injuries elsewhere, where the bullet passes through the muscular portion only of the thigh, the wound heals very rapidly.

Case I.—No. 295, Private R. C., of the 94th Regiment, was in the square at Ulundi, and hit in the right thigh. The bullet entered at the apex of Scarpa’s triangle, just avoiding the femoral artery, and, taking a course round the bone, came out on the other side exactly opposite. The wound, after sloughing, healed very soon, without any constitutional or other complications.

Case II.—No. 1876, Private J. G., of the 58th Regiment, was in the square at Ulundi. Firing had just ceased, and he was turning round on the ground, he having lain down, when he accidentally came into contact with a comrade’s rifle, which was loaded and lying close to him. It went off, the bullet entering the right thigh posteriorly about its middle, in the central line, and made its exit two inches above the outer side of the patella. Wound of entrance was small and clean, that of exit triangular and large, more than an inch long. A long, very painful sinus, followed by suppuration, was present. This after a time got well.

With regard to cases of fracture of the femur in gunshot injuries, I shall detail three cases illustrative of the effects of the modern rifle and conoidal bullet. In one case I attended immediately after he fell, during the thick of the battle; in the second the patient was removed to a camp adjacent to the battlefield; and
the third was conveyed ten miles along a bad road by the "bearers" to the hospital.

CASE III.—Lieutenant P., of the 13th Light Infantry, was hit in the engagement at Ulundi, and I saw him almost immediately afterwards. The bullet entered the right thigh about its middle, passing through it in a direct line without injuring vessel or bone, and entered the thigh of the opposite limb about its upper third, causing severe comminution of the femur, and then escaped on the other side. The wound in the right thigh healed, without a drop of pus coming from it, in a few days. The wounds were small, clean, and round, and no difference was perceptible between the entrance and exit. Those in the left thigh were different, the wound of entrance being twice the size of that of the other limb, and that of exit being large, deep, and gaping, and there was considerable hemorrhage present. I put the limb up in a long splint at the time, and immediately after the battle I wished to remove the limb. This was not agreed to, and I lost sight of him for two days. When seen then his leg was still in the splint I had put on, but the case had become more complicated. A considerable tumour, pulsating strongly, occupied Scarpa’s space. Ten days after the injury the wound began to bleed alarmingly and all efforts failed to check it. The limb was then amputated—I assisting—but the patient died upon the table.

The following was the condition of the limb I found on making an examination afterwards. The whole of the femur, except a few inches near the trochanters and condyles, was fractured, and existed only in fragments, large, loose, sharp-edged and pointed pieces. The medullary canal was full of a fungoid mass smelling most foully, and all the fragments of bone were quite destitute of living covering. An inch below where the profunda branch is given off by the femoral the main artery was cut half through, evidently by one of the sharp fragments of the femur, and a long dark clot was hanging from it. The tissues immediately in this vicinity were in a softened condition, the adductors and vastus muscles being pulpified and separated from one another, and the space filled with blood-clot.

CASE IV.—1911, Private S. D., of the 58th Regiment, was wounded when storming the heights of Lang’s Neck. When seen by me on the 16th April he was emaciated to the greatest degree, and had severe bed-sores over the trochanters and sacrum. The bullet entered the thigh in front, about its middle, and made its exit through the head—origin—of the gastrocnemius muscle, thus traversing the middle and lower third of the thigh. The leg was not in splints, and lay out of its normal line. The discharge was very profuse and foul. On probing, loose fragments and bare bone were easily detected. On movement of the limb some mobility was made out, but as he was so weak very little manipulation
could be practised. He had all the symptoms of hectic, high evening temperature, profuse perspirations, diarrhoea, red tongue, etc. As this man would most certainly die if left alone, and as there was the faintest chance of life if operated on, I determined to do so.

21st April.—I removed the limb by means of a long anterior flap, according to the teaching of Spence, in the upper third of the thigh, the wound of entrance of the bullet being in the flap. I have frequently found these can be utilized for putting in drainage-tubes, and thus serve as already made counter-openings.

The femur was found much broken, the upper and lower ends riding over one another for several inches. The slight callus which was being thrown out was not enough to hold the fragments firmly, the blade of a knife easily going between any point of approximation. A large loose sequestrum lay between both ends. The medullary canal was full of fungoid foul material. Periosteum covered the large fragments. A very large abscess existed along the shaft of the bone, up as far as the groin and down to the knee, full of very fetid pus. The knee-joint itself was filled with pulpy material. The muscles of the thigh were pale and waxy in appearance, infiltrated with pus. The leg was oedematous, pitting deeply on pressure. During the operation, before a knife was used, very alarming syncope came on, requiring the immediate withdrawal of the chloroform which was being administered, and artificial respiration being resorted to energetically. It then became a question, as the man was moribund, whether we should operate or not. Slight as the chance of recovery was, however, I gave it the patient.

22nd April.—No bleeding, only a little serous discharge on the dressings. Wound of entrance acts as an excellent point of drainage for the stump.

23rd April.—Discharge dark and offensive in odour to-day. Flaps fit easily all round. In the evening oppressive breathing and great weakness set in. Vomits his food, and also the stimulants given him.

24th April.—Sweats a great deal; oppression of breathing getting worse. Died, conscious to the last.

Case V.—No. 231, Gunner T. H., of N. 5 battery R.A., was hit at the Ingogo. This man had been a member of the unfortunate column that met with disaster in the Zulu War, and was afterwards a patient of mine at Helpmakaar for enteric fever. The bullet entered his right thigh posteriorly about its middle, taking a direct course through the bone, making its exit anteriorly about the lower part of the upper third of the thigh and hitting the opposite thigh, making a deep flesh wound and escaping. On the 18th March I took charge of this case in the following condition:—His limb was supported in a MacIntyre splint, very great and foul discharge.
well up from the top wound. Pressure over the vastus and rectus muscles caused half a pint of pus to come away. The lower wound was temporarily healed, but was evidently about to break open. The upper fragment of the femur was sticking out very prominently at the middle third of thigh, only the integument covering it. The probe found loose bone and bare shaft. Had a very bad bed-sore over sacrum.

21st March.—Got a weight and pulley extension apparatus fitted up in hopes of bringing the fractured ends of the bone together. Amputation was not thought to be the treatment, at least not until conservative surgery had failed. Drainage-tubes were put into the abscess sacs, so that there could be no collection of pus. Removed all loose portions of bone.

2nd April.—The pus is now draining off, but the pulley and weight has not made any change in the relationship of the fractured ends of the shaft.

15th April.—Under chloroform I made a thorough examination of the case; removed several loose sequestra of bone. The upper fragment of the femur still stuck out anteriorly, while the lower one was drawn up and pressing on to the pelvis. The sharp, bare point of the upper portion of the shaft was removed, as it was causing pain from pressure on the integument. A huge abscess sac existed amongst the muscles at the back of the thigh. A drainage-tube was inserted through a counter-opening made in it. The pulley and weight extension apparatus was again fairly tried. The high position of the injury, and the weakness of the patient, and the chance of the extension succeeding, deterred me from amputation at this time.

20th April.—This patient contracted erysipelas, and was placed under the care of another surgeon. After he recovered from that, the same gentleman removed the limb, with a fatal result.

As an instance of what successful results may be obtained by means of the pulley and weight extension apparatus, I shall relate the following case here:—An old man (nearly 60), called M. H., came under my care when doing duty in the Herbert Hospital, Woolwich, on the 13th March 1878. It was at the time when the scare connected with the Russo-Turkish war was in progress, and huge stores, and sheds to contain them, were being taken to and formed in the dockyard at that station. This man, when engaged in building one of those sheds, met with the following accident through the falling of the building. He was the most severely injured of many, most of whom were treated by me. When admitted he was apparently moribund. Face pale, pulse almost imperceptible, most obstinate vomiting, everything swallowed being returned. The right thigh was comminuted, quite in pieces; a simple fracture of the left one existed. The knee of the left leg was greatly swollen and painful. Three ribs on the right side
were fractured, and extensive emphysema of the cellular tissue over this side of chest was found. Altogether a most serious case.

14th March.—As he was unable to bear any moving, his limbs were put temporarily in MacIntyre splints. Continues to vomit everything taken. Very feeble.

15th March.—A little better; still vomits, however.

17th March.—Has not vomited since yesterday. Having iced milk and soda-water only. Had a castor-oil enema with good result.

19th March.—Took off the MacIntyre splints, as they were hurting his legs, and rolled pillows simply round them.

20th March.—Put up pulley and weight apparatus at foot of bed for both legs. I managed to get both limbs alike in size, and normal in line; great relief followed.

25th March.—Tenderness over sacrum; placed on a "fracture bed."

28th March.—Bed-sore sloughing. Removed from the "fracture bed" to an ordinary one, which suits much better; air-cushions used to take weight off the bed-sores.

29th March.—Raised himself in bed to-day; no pain felt in the ribs, a bandage being still worn around his chest.

5th April.—Along with the senior medical officer, I took off all the apparatus to-day. The limbs are nearly the same size, the right one being half an inch less. The bones were decidedly uniting, a good deal of callus being thrown out around the right thigh fractures. No eversion of the feet. Sand-bags are kept along either side of the limbs; no splints. Bed-sores healing rapidly now, black-wash alternating with red-wash being used to them.

13th April.—Took sand-bags, etc., from left thigh permanently. Knee still swollen; evaporating lotions used.

16th April.—Removed all apparatus to-day. Union seems complete; moved the limbs about freely.

21st April.—Sleeps in same manner as other patients now in bed; allowed full liberty. His knee is still a little swollen. Lifts his legs himself readily in bed now.

2nd May.—Gets out of bed himself now, and sits on a chair. The legs swell when up. To have friction applied and flannel bandages.

11th May.—Walked half way across the ward, aided only with sticks.

19th May.—Walks about regularly. From this date he made an uninterrupted recovery, and he left the hospital, walking out, and going over a mile to his home. The limbs were exactly alike in size; the left thigh, when examined, had a slight outward curve, due to use before the callus had quite hardened, a fault on the right side, as I have seen so many cases of useless limbs result
from too long disuse of them after such injuries. With this little exception, the limbs were as shapely as ever they were.

(To be continued.)

DESCRIPTION OF PLATE.

PLATE VI.

1 and 2 represent anterior and posterior views of the femur of Lieut. P., wounded at Ulundi, in the Zulu War.

3 shows the condition of the humerus found in the case of Private C., 58th Regiment. The projectile had not touched it, but the subsequent inflammatory processes had caused its death.

V.—CASE OF DIFFICULT LABOUR; METRO-PERITONITIS; CARBOLIC ACID POISONING ON FIFTH DAY; SEvere GENERAL SEROUS INFLAMMATIONS; DEATH. WITH REPORT TO PROCURATOR-FISCAL.

By A. D. Leith Napier, M.D., Dunbar.

(Read before the Medico-Chirurgical Society of Edinburgh, 4th April 1883.)

The following case presents sufficient features of interest to justify its publication. Cases of carbolic acid poisoning are happily rare in private practice; and, so far as I am aware, few similar have been recorded.

As this case formed the subject of an official inquiry by the procurator-fiscal, I have adhered almost wholly to the report submitted to him.

NARRATION OF CASE.—Mrs B., residing at ——, two miles west from Dunbar, ætat. 34. Personal History.—Good, with exception of considerable oedema pedem during pregnancy. Obestrical History.—Five previous confinements (one of twins), all easy. Delivery on 21st October 1882. Pains short and irregular; rupture of amniotic sac some time before my arrival. Presentation left hand and shoulder, vertex lying to right; chloroform and version; left leg brought down, and afterwards right; operation rather prolonged, owing to absence of waters and uterine contraction. Delivery was completed in thirty minutes or less, the Braxton-Hicks method being observed. The infant, a well-sized female, was still-born, and could not be resuscitated. Placenta expelled very easily.

22nd October.—Complaining of after-pains; some clots passed; bowels acted naturally.

23rd.—Mane—Uterine pain and tenderness; some uterine enlargement; pulse 100; temp. 103°. “R Tinct. aconiti 5ss. Sig. ℥j. omni min. p. dos iv. deinque ℥j. omni horà sumendus.”