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CASES OF GUN-SHOT FRACTURES OF THE THIGH AND WOUNDS
OF THE CHEST, SHOWING THE RESULTS OF CONSERVA-
TIVE SURGERY IN THE FORMER.

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[Read before the Boston Society for Medical Improvement, and communicated for the Boston Medical and
Surgical Journal.]

DURING the early part of November last I seized an opportunity to visit Winchester and ascertain the progress and results in many cases of gun-shot wounds that I had seen only once or twice in Division hospitals, after the two battles of the 19th of September and the 19th of October. The first battle occurred near Winchester, Va., and the second near Cedar Creek, about three and a half miles from Strasburg, Va. Those wounded in the battle of Winchester, on the 19th of September, were moved into the town as rapidly as possible; the distance being about four miles from where the Division hospitals of the 19th Army Corps had been established. The battle occurred on the 19th; the troops moved forward in pursuit of the enemy at dawn on the morning of the 20th, and of course most of the ambulances moved with the column; a few were left to carry the wounded from the field hospitals to Winchester. The most appropriate buildings were chosen, to be converted as rapidly as possible into hospitals. Some of these were churches, and by removing the pews very comfortable and convenient wards were obtained; others were unfinished dwelling-houses and store-houses. On the 22d the patients had all been transferred. I then rejoined the Division to which I was attached, at Strasburg, on the night of the 20th. On the 22d the rebel position at Fisher's Hill was carried, and the wounded of the Corps, numbering about fifty, were sent back to Winchester. The army moved on at once, as fast as infantry could march, in pursuit of the disorganized and panic-stricken enemy, to Harrisonburg, and, after remaining there about a fortnight, retraced its steps to Cedar Creek. At this latter position our camps were surprised just before dawn on the morning of the 19th of October,

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and our army was driven rapidly backward. Every medicine wagon in the 19th Corps was lost, and all the medical supplies, except such as the surgeons or their orderlies were carrying on their persons. All the ambulances of the 1st Division were also captured, except three, though at night we had captured from the enemy more than we had before the battle began. Of course most of the wounded, as they fell, became prisoners. It needed but the arrival of General Sheridan (who was absent when the battle began) to turn this defeat into a most brilliant victory. The only reinforcement necessary was this one man, who, by his personal influence, courage, and the force of his military genius, accomplished the results of that well-known victory.

The wounded in the Corps in this battle numbered about 1200; of course a number of these cases were not sent to hospital, but all requiring prolonged and careful treatment were moved, as rapidly as possible, from the Division hospitals established at Newtown, six miles from the battle-field, to Winchester, which is about eight miles from Newtown. The weather was quite cold, the nights particularly so. The fighting had not ended till after darkness had come on; all the wounded that had fallen into the hands of the enemy had been robbed of their money, blankets, and more or less of their clothing. I think most of them were left behind by the rebels in their hasty flight; and I mention these facts in regard to the state of the weather and the stripping and robbing of these crippled soldiers, to account for some of the necessary sufferings they experienced. As the night following the battle was very dark, and the men lay scattered in the fields and woods where they had fallen, it was a difficult task to find them. Many of the men were left by the rebels in their field hospitals without shelter or attendance; and as they lay there in the cold, without clothing, their wounds growing stiff and sore, one can easily imagine with what anxiety they waited for relief, and with what joy they greeted those who brought it.

I did not see any of these cases again till an interval of leisure, in November, afforded me an opportunity to visit Winchester. I was anxious to observe the results of conservative surgery in regard to fractures of the thigh where the knee-joint was not involved and the comminution not very extensive. My own opinion leaned to the belief that most gun-shot fractures of the femur, of the description above mentioned, could be saved; at any rate that the chances for prolonging life were greater if the limb was not interfered with, than when amputation was practised. I determined, on my arrival in Winchester, to examine and record all cases of this description which had occurred in the 19th Corps then in hospital, where attempts had been made to preserve the limb and procure union; it occurred to me, also, that it would be interesting and useful to record all cases of perforating or penetrating wounds of the chest. The following cases are the result of my examination.

CASE I.—Nov. 5th. Serg't John A. Brown, Co. E, 26th Mass. Vols., æt. 25 years. Wounded Sept. 19th by a Minié ball, which entered the right thigh on the middle of its outer side and emerged on the inner side of the limb, opposite the point of entrance, fracturing the femur; the limb has lain on its outer side; no apparatus has been applied; the discharge has been very free, but is diminishing in quantity and is not very offensive. The union is moderately firm; passive motion of the knee is practised every day. The shortening is two inches. General health, appetite and appearance good; looks bright, and talks with a great deal of animation. The treatment has been nourishing and stimulating. Died December 9th, 1864.

CASE II.—Nov. 5th. Corporal Abram B. Stoner, Co. I, 24th Iowa, aged 33 years. Wounded Sept. 19th by a Minié ball, which entered the right thigh at its outer posterior surface near the middle of the limb, and was extracted near the anterior surface of the limb at its lower third, passing through the limb obliquely downwards and inwards, fracturing the femur. The patient lay upon the field till one o'clock of the morning of the 20th, when he was removed to Winchester. On the 21st, an apparatus like that represented in Fig. 1

FIG. 1.

was applied. The union is now firm; the shortening is $3\frac{1}{2}$ inches; the discharge is free, and consists of laudable pus; patient can kick up his leg. General health, appetite, &c., fine. Sent north, presumed to be doing well.

CASE III.—Lieut. Ed. L. Postley, 176th N. Y., æt. 39 years. Wounded Sept. 19th. A Minié ball entered the anterior surface of the upper third of the right thigh, $1\frac{1}{2}$ inches below Poupart's ligament, and emerged on the outer posterior surface of the limb, $1\frac{1}{4}$ inches below the greater trochanter, fracturing the femur. On the 20th he was removed to Winchester, and lay quietly in bed for ten days. At the end of this period slight extension was made, and a splint resembling that of Desault was applied. The limb was allowed to remain in this apparatus five weeks; during this time the discharge was very free, and a few small spiculæ of bone came out. The discharge is now slight and laudable. His recovery has been continuous. The union is firm, and he can throw his leg up; there is some curving outward of the limb at the point of fracture; the shortening is $2\frac{1}{2}$ inches. General appearance, appetite, &c., excellent. On the 7th of November a plaster splint was applied, and the drawing No. 2 represents the limb as it then appeared. Sent north, supposed to be nearly well.

CASE IV.—Nov. 5th. Private Conrad Smith, Co. D, 159th N. Y. Wounded Sept. 19th. A Minié ball entered the left thigh posterior-

ly six inches below the trochanter, and emerged from the anterior surface of the limb at a point $4\frac{1}{2}$ inches nearer the knee, fracturing the femur. The bone was not extensively comminuted. Two weeks after the injury the limb was placed on a double inclined plane. No spiculæ have been removed. The discharge is at present slight; the union perfectly firm; the provisional callus is very abundant, and there is a little bowing outwards of the thigh at the point of fracture. The shortening is $2\frac{1}{2}$ inches. The patient moves about the ward. Sent north, supposed to be nearly well.

FIG. 2.

CASE V.—Nov. 7th. Priv. W. H. Comstock, Co. B, 114th N. Y., 19 years old. Wounded Sept. 19th. A Minié ball entered on the anterior external surface of the left thigh at about the junction of the middle and lower thirds, and still remains in the limb; the femur was fractured. Five days after the injury a Smith's anterior splint was applied. The discharge has been very copious; the wound is now nearly healed; the union is very firm and the patient can raise the limb; the shortening is three fourths of an inch and there is no deformity. General appearances, &c., excellent. Remains in Winchester, Jan. 3d, 1865. Unfit to be moved.

CASE VI.—Private George W. Hall, Co. I, 38th Mass. Wounded Sept. 19th. A Minié ball entered the inner surface of the left thigh at the junction of the middle and upper thirds, fracturing the femur and remaining in the limb. No spiculæ have ever been removed. The discharge has been abundant, but is now moderate in quantity and laudable. A Smith's anterior splint was applied five days after the injury. The union is now firm and the shortening three fourths of an inch. General appearance, &c., excellent. Remains in Winchester, Jan. 3d. Unfit to be moved.

CASE VII.—Serg't Hiram H. Davis, Co. B, 156th N. Y. Wounded Sept. 19th. A Minié ball entered the anterior surface of the right thigh at the middle of the upper third, and passed out exactly opposite at a point three inches below the trochanter, fracturing the femur. A Smith's anterior splint was applied five days after the injury. No spiculæ have come away; the anterior wound is now

healed; the union is moderately firm. Remains in Winchester, Jan. 3d. Unable to be moved.

CASE VIII.—Private A. Ingram, Co. G, 13th Conn., æt. 33 years. Wounded Sept. 19th. A Minié ball entered at the middle of the left thigh posteriorly, and emerged anteriorly and a little externally $3\frac{1}{2}$ inches above the knee-joint, passing forwards, downwards and slightly outwards, fracturing the femur. No splints have been applied; the limb has lain on its outer side, with the knee flexed; there has been very severe and continuous pain, in consequence of injury to the sciatic nerve. A very few small spiculæ of bone have come away. Suppuration has been slight. General appearance, &c., with the exception of the sciatic pain, excellent. Union is now firm; shortening, $1\frac{1}{2}$ inches. The fracture was nearly transverse. Patient gets into and out of bed without assistance. Sent north, supposed to be nearly well.

CASE IX.—Private Isaac Miller, Co. D, 24th Iowa. Wounded Sept. 19th, in four places—in the right thigh, right leg, right ankle and left foot. A Minié ball entered the outer side of the right thigh, $4\frac{1}{2}$ inches below the trochanter, and emerged on the inner side five inches above the internal condyle, fracturing the femur at the upper part of the middle third. There was considerable comminution; a few pieces of bone have come away. No extension could be made on account of the wounds of the leg and ankle; has had erysipelas. The double inclined plane was used, and the wounds are now all doing well; the union is moderately firm, but there is some bowing outwards at the point of fracture; the shortening is 4 inches. Remains in Winchester, Jan. 3d. Unable to be moved.

CASE X.—Private Albert C. Greenwood, Co. A, 14th N. H., æt. 22 years. Wounded Sept. 19th. A Minié ball entered the left thigh posteriorly a little to the inside of the median line at the middle of the thigh, and emerged anteriorly five inches above the external condyle; an oblique and slightly comminuted fracture of the femur, at the middle of the bone, was produced. He was suffering from chronic diarrhœa when wounded. Five days after the injury the limb was placed on a double inclined plane, the foot being fastened to a foot-board. The discharge is at present healthy and profuse. A very few spiculæ of bone have come out. The appetite and digestion have been poor, and are so now. The union is now firm, and the shortening $2\frac{1}{2}$ inches. The bed on which the patient lies has a trap-door in the centre, which permits him to have an evacuation without disturbance. Died Dec. 24th, 1864.

CASE XI.—Private W. P. Miller, Co. C, 24th Iowa, æt. 21 years. Wounded Sept. 19th. A Minié ball entered directly above the right trochanter, emerging anteriorly a little to the inside of the median line, five inches below the anterior superior spine of the ilium. The hip-joint was opened, and the synovial fluid has been escaping. The thigh has been very much swollen and the veins very prominent; has

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suffered some pain from irritability of the sciatic nerve. Patient is somewhat emaciated; his appetite is fair and his general health good. The shortening is two inches, and there is supposed to be no union. The limb has lain upon its outer side, with the knee somewhat elevated. Remains in Winchester, Jan. 3d. Unfit to be moved.

CASE XII.—Private George Fontaine, Co. F, 114th N. Y., æt. 25 years. Wounded on the 19th of September. A Minié ball entered on the inner side of the left thigh, at the lower part of the middle third, and passed through the limb horizontally. The femur was fractured and considerably comminuted. A long side splint was applied, and the fragments were placed as nearly as possible in proper position. The appetite and general health have been excellent. The union is now firm, and there is no deformity; the shortening is two inches and a quarter; both wounds are nearly healed. Small spiculæ have been removed during the progress of the case. The patient can raise his leg easily. Jan. 2d.—The patient has gone home well.

CASE XIII.—Corporal Franklin Sackett, Co. C, 114th N. Y., æt. 19 years. Wounded Sept. 19th. A Minié ball entered the outer side of the left thigh, six inches below the trochanter, and passed inwards and slightly upwards, fracturing the femur, and was cut out at a point on the inner side of the limb a little higher up than where it had entered. There was considerable comminution, and the ball is much flattened. The discharge is now slight, both orifices are nearly healed, and the union is firm; the shortening is 2½ inches. The patient can raise his leg, and has stood up and swung it. Sent north, supposed to be nearly well, Jan. 2d, 1865.

CASE XIV.—Serg't Kirk F. Brown, Co. A, 8th Vt., æt. 22 years. Wounded Sept. 19th. A Minié ball entered the inner side of the left thigh, four and a half inches below the anterior superior spine of the ilium. It was removed from the posterior side at a point directly opposite its entrance; it is much flattened, and has embedded in it a portion of a watch-key which was in the soldier's pocket; both orifices are now nearly healed; appetite, &c., excellent. The union is firm; shortening, one and three fourths inches. Remains in Winchester. Unfit to be moved.

It will be observed that I have briefly given the history of fourteen cases of gun-shot fracture of the thigh, from the time of the reception of the wound to the middle and end of the seventh week, and that the condition of the patient nearly four months afterwards is briefly mentioned. It may be observed that in twelve of these cases the union was quite firm; in one of them there is none, and in one the hip-joint is opened. Now it would be interesting to compare the percentage of deaths following amputation of the thigh with that occurring in cases of conservative surgery of gun-shot fractures of the femur in the 19th Corps; and I confine myself to the 19th Corps

because it will be impossible for me to examine the records of all the corps hospitals. This percentage will be ascertained on a much larger scale from the records in the Surgeon-General's office, by Dr. Woodward, but the comparison in this one corps will be interesting. These fourteen cases were all that were in hospital at Winchester, alive, who had been wounded on the 19th of September, and sustained fracture of the thigh. The following twelve cases were received from the battle-field of Cedar Creek.

CASE XV.—Daniel Gassel, corporal, Co. B, 176th N. Y., æt. 26 years. Wounded Oct. 19th. A Minié ball entered through the right testicle, and passed through the right thigh horizontally, emerging just below the trochanter major, fracturing the femur in its passage and producing much comminution. The limb has been very much swollen and the veins very prominent. A straight splint was at first applied on the outer side of the limb, but was soon removed on account of the increased swelling; the discharge has been profuse and somewhat offensive; no spiculæ of bone have come out; the appetite has been very good, and the patient's condition on November 7th was encouraging. The limb now lies upon pillows, placed one upon another, so as to form a double inclined plane; a weight of about three pounds is attached to the foot. There was no union Nov. 7th, and no estimation of the amount of shortening. Remains in Winchester, unfit to be moved, Jan. 3d, 1865.

CASE XVI.—Gilbert Mullen, Corporal, Co. G, 90th N. Y. Wounded Oct. 19th, probably by a Minié ball. The missile entered through the upper portion of the left patella, towards its inner edge, and emerged from the popliteal space on the inner side of the inner hamstring, passing directly through the inner condyle. This was a proper case for amputation, but has been doing wonderfully well. It is now Nov. 7th, nineteen days since the injury was received; the joint is about one third larger than the right knee, and there is slight mobility. His condition has been excellent since he was wounded; and he now looks hearty. Both wounds are wholly healed, and I regard his recovery as almost certain. Sent north, supposed to be nearly well.

CASE XVII.—Private A. H. Inman, Co. E, 8th Indiana, æt. 16 years. Wounded Oct. 19th. A Minié ball entered posteriorly just above the middle third of the thigh, and emerged anteriorly at a point just opposite, fracturing the femur, with much comminution; he was wounded at early dawn, and lay where he fell for twenty-four hours, being robbed of his clothing and money. His condition has not been very encouraging at any time. There is now (Nov. 7th) much swelling and considerable discharge of foetid pus. No union; the shortening is about two and a half inches. The patient's appetite is tolerably fair, and the attending surgeon considers his general condition improving. The result is doubtful. Died, Nov. 13th, from the effects of secondary hæmorrhage.

CASE XVIII.—James Mooney, Co. I, 11th Indiana, æt. 19 years. Wounded Oct. 19th. A Minié ball entered the inner surface of the thigh, at the lower third of the limb, and fractured the femur; the missile is retained. No apparatus has been applied; there is no union; the discharge is moderately large and not very offensive. The man has suffered somewhat from secondary hæmorrhage. His countenance, appetite, and general appearance are at present encouraging.

CASE XIX.—Private Levi S. Eddy, Co. H, 90th N. Y., æt. 43 years. Wounded Oct. 19th. A Minié ball entered the outer side of the left thigh, at the middle third, passing out through the anterior surface of the limb, somewhat towards its inner side. The femur was fractured and comminuted; he lay where he fell for twenty-four hours, and suffered severely from the cold, having but a single blanket. No splint was applied for twelve days, when the apparatus represented in the drawing numbered 1 was applied. It is in effect a double inclined plane. There is no union (Nov. 7th); the discharge is free and laudable; general appearance excellent. Died Nov. 30th, 1864.

CASE XX.—Thomas Tweedel, Co. E, 153d N. Y., æt. 26 years. Wounded Oct. 19th. A Minié ball entered the posterior surface of the left thigh, at the junction of the upper and middle thirds; the thigh was fractured and extensively comminuted; he lay on the field thirty hours. No splint was applied till Oct. 31st, when the apparatus known as Buck's was adjusted, but was soon removed on account of pain. Tetanus came on, and the patient died Nov. 9th. An autopsy, in which I removed the spinal cord and brain, revealed nothing remarkable.

[To be continued.]

DOES MAN DERIVE THE TRICHINÆ FROM THE FLESH OF THE HOG ALONE? IS PORK AN UNHEALTHY ARTICLE OF FOOD?

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At this time I presume the majority of the profession would answer in the affirmative, but I think further observations will prove there are other animals equally affected. Pork furnishes a large share of the animal food of the western farmer, and it is therefore reasonable to suppose that its deleterious effects, if it possess such, should be as marked here as elsewhere, and that some of its many consumers would be affected with trichina, tænia, and the like; but such is not the case. I doubt if one practitioner in a hundred can remember an instance where he lost a patient with some mysterious disease; and if so, I will warrant he remains as much in doubt as to its nature as before the discovery of this new complaint.

The natives of the West, as a class, are unusually robust, in fact as fine a body of men, physically, as can be met with anywhere;