

REPORT OF AN OBSTINATE CASE OF
AMENORRHŒA SUCCESSFULLY TREATED
BY THE APPLICATION OF ELECTRICITY.

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A. B.—, aged seventeen, single, was admitted July 3rd, 1858. She is a slight, delicate-looking girl, of middle height and sanguine temperament; the eyes are bright, pupils dilated, and she has a puzzled, anxious expression of countenance. There is nothing peculiar in the form of the head. The vascular and respiratory organs are healthy, and the functions of the abdominal viscera well performed. The face is covered with isolated pustules on a hardened base, which eruption has existed for some months, and, although yielding repeatedly to treatment, has always recurred. Pulse 100; tongue clean; and steadily protruded; skin cool; bowels regular. The hairy scalp is hot, and communicates a burning sensation to the hand.

The present, which is her first attack, and has been gradual in its accession, commenced about nine months ago, and was characterized in the onset by various peculiarities and eccentricities, which at length proceeded to such an extent as to necessitate her removal from home. She was then placed under the care of a lady in private lodgings in the country. Here she became violent, and personal restraint was rendered necessary on two occasions, for a single day each time; when, becoming altogether unmanageable, it was decided to place her in an asylum.

Her mental malady is marked by an ever-present feeling of distress at the neglect of some duty which she erroneously supposes incumbent upon her to perform. She is constantly proposing to do something far beyond her present powers, and, on failing, is thrown into a state approaching to anguish, which is only relieved by a flood of tears. If thwarted, she screams, exhibits vagrant and violent action of the limbs, or even makes an attack upon some one in her immediate vicinity. The accompanying delusions are various: one, of a fearful character, refers to a book which she has lately been perusing; another induces her to believe that she will be compelled to work for six days and then rest for six; while a third leads her to press forcibly upon her abdomen with both hands for one hour each day. Slight prolapse of the rectum from which she suffers is probably due in some measure to this insane habit. The memory is good, and there is no defect of articulation nor unsteadiness of gait. She was always wilful and violent in temper, though of religious and strictly temperate habits, residing at home with her friends in the country, and pursuing an active and healthy mode of life. The head symptoms occurred simultaneously with disordered menstruation, and were apparently aggravated by total absence of the catamenia, which has, with two slight exceptions, existed, in spite of the most judicious and energetic treatment, up to the date of admission. Ordered, a quarter of a grain of acetate of morphia, with sufficient water to make a draught—to be taken thrice daily.

Aug. 1st.—Is still very excitable, and suffers from a variety of delusions. Pulse 70, weak; skin cool; scalp very hot. Ordered citrate of iron and quinine, two scruples, with water sufficient to make an eight-ounce mixture—two tablespoonfuls three times a day; acetate of morphia, one grain every night; one tablespoonful of cod-liver oil, and a wine-glass of port, twice daily; liberal diet; a shower-bath each morning, and ice to the head for two hours night and morning.

25th.—Is slightly improved in general health, but continues very confused and incoherent, and is still afflicted with numerous delusions. To have bicarbonate of soda, half a drachm; decoction of aloes and powdered capsicum, of each one scruple; oil of savine, sufficient quantity to form into eighteen pills: two to be taken three times a day, with a full dose of the ethereal tincture of ergot. A hot hip-bath to be substituted for the shower-bath the last week in each month (that being the presumed menstrual period). To continue the tonics and liberal diet, and to take much exercise.

Sept. 25th.—Health decidedly improved, and mental condition ameliorated. The menses have not yet appeared. To have large cupping-glasses applied to the inner surface of the thighs each night of the last ten days of the month; a hip-bath, with mustard, as hot as can possibly be borne, to be used each night

during the same period; also a teaspoonful of the following mixture thrice daily, with five minims of the oil of savine and an occasional aloetic aperient:—Tincture of cantharides, muriated tincture of iron, and ethereal tincture of ergot of rye, P.E. In the intervals, this mixture to be substituted for the quinine and iron:—Phosphate of iron, one drachm; dilute phosphoric acid, two drachms; water to eight ounces: two tablespoonfuls three times a day.

Oct. 25th.—The general health continues to improve. Menses still absent. The emmenagogue treatment to be continued through the latter half of each month, in addition to the baths, &c.; and to wear a 60-link Pulvermacher chain, the positive pole on the sacrum, the negative on the groin, with interrupter, for one quarter of an hour night and morning.

Nov. 25th.—Much the same; menses still absent. Two chains of 30 links, each with continuous current—one pole upon the abdomen, the other upon the groin—to be worn two hours night and morning. Hot hip-bath, warm clothing, warm drinks on retiring, exercise, and other emmenagogue treatment to be continued; and, in addition, a pungent solution of strong liquor of ammonia in milk to be injected per vaginam night and morning.

30th.—The chains have produced slight sores, and are irksome. To be discontinued.

Dec. 2nd.—An interrupted current to be applied to the os uteri night and morning, the positive pole being placed over the sacrum; a 30-link chain to be employed, and the links wetted one by one. All other treatment and remedial measures to be discontinued.

6th.—The chain has been applied, with all the links excited. No effect was produced, and no sensation experienced. A 60-link to be substituted, and used night and morning for two days. Much smarting was experienced in the situation of the sacral pole.

9th.—Menses appeared this evening; colour natural.

14th.—Menstrual flow continued until this date.

25th.—General health and mental condition have much improved since last report.

June 10th, 1859.—Since last entry, during a period of six months, the patient has menstruated regularly every fourth week. The reappearance of the catamenia was accompanied with considerable improvement in the mental condition, and for some time past she has been sufficiently restored to attend concerts, the theatre, and other public meetings. Occasional fits of excitement somewhat interrupted the progress of the case, but she is now, although not perfectly recovered, and still subject to occasional eccentric outbreaks, well enough to live with the family, converse rationally, and associate with strangers, who do not detect anything abnormal. The pustular eruption, formerly a source of much anxiety, gradually faded, and the face has been for some months quite free from blemish.

On July 22nd the patient was sufficiently recovered to return home, and on the 15th of August I received a very favourable account of her health and conduct from her friends.

In recording the preceding case, my object is not so much to call attention to a valuable, though frequently-neglected therapeutic agent, as to suggest to my professional brethren the adoption of that mode of applying the galvanic current which I found efficacious, and which I believe to possess some advantages over the methods commonly employed. The introduction of an isolated conductor into the os uteri, and the use of an ordinary electric machine, necessitate the presence of the medical man, and involve the exposure of the patient. Being particularly anxious to avoid the latter, I was induced, in the present instance, to use as one electrode a wooden female syringe, perforated with copper wire, and protected by a small piece of wet sponge. The patient having been accustomed to the injection of fluids, this instrument was readily introduced, and by merely attaching one pole of Pulvermacher's chain to the end of the wire, while the other was applied to the sacrum by an elastic band tied round the abdomen, a powerful current was passed at once through the uterus. Common household vinegar is sufficient to excite the chain, no initiation is required, and any patient may thus, in the privacy of her own chamber, as readily direct a current through the womb as inject a stream into the vagina.

In the conduct of the foregoing case I was unnecessarily cautious, as a high power is readily borne. The effect with some patients is immediate, and although that was not the case with mine, I cannot but conclude that galvanization roused the atonic uterus when almost all the usual therapeutic means, carefully applied, had failed.

An eminent physician, who formerly had charge of the patient, states that he had administered all the usual internal

remedies, with the effect only of producing a slight and transient flow of the menses on the two occasions already referred to. He was about to use galvanic pessaries, when her mental state compelled him to suggest removal to an asylum. As the friends also consulted other gentlemen well known in the medical world, it is but just to admit that ordinary means had proved ineffectual, even prior to the energetic measures unsuccessfully adopted under my own immediate superintendence.

Kirkdale, near Liverpool, Aug. 1859.

ON A CASE OF

WOUND OF THE FEMORAL ARTERY NEAR ITS TERMINATION.

SINGLE LIGATURE IN SCARPA'S TRIANGLE; RECOVERY WITHOUT SECONDARY HÆMORRHAGE.

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EXCEPTIONAL cases to general rules, in surgery as in all other sciences, are usually regarded with peculiar interest. It is believed that the subjoined case will be found to be an exceptional one, both as regards the mode of treatment (the application of a single ligature four inches above a wound of a large artery), and as regards the result of that treatment—viz., recovery without secondary hæmorrhage. I will first briefly state the case, and then make a few remarks upon it.

On the 23rd of last April, P. D—, aged eighteen, a carpenter's apprentice, of delicate constitution, was working at a wooden pillar with a mallet and gouge, when, happening to look round carelessly, the gouge, struck by the mallet, glanced off the wood, and entered the left thigh, penetrating the sartorius muscle, and wounding the superficial femoral artery, just before its termination in the popliteal. Finding himself bleeding, he ran down about twenty stairs, through a courtyard, into the street, where he stood some seconds, and then entered a public-house, and fell down on the floor of the bar, faint from loss of blood. Happening to pass about five minutes after the accident, I was called in. I found him lying in an immense pool of blood, with which also his trousers and drawers were perfectly saturated; blood was still issuing per saltum from the wound in a very large stream. I instantly placed my thumb on the trunk of the common femoral, and thus controlled the hæmorrhage. My patient was deadly pale, pulseless at the wrist, and his extremities already cold; urine discharged involuntarily. For half a minute he lay so still and motionless that I thought life was extinct. Brandy was poured into his mouth, and the limbs soon began to twitch convulsively, and, after a few deep-drawn sighs, consciousness returned, and pulsation was again perceptible at the wrist. My friend and neighbour, Mr. Perry, came to my help in a few minutes, bringing with him a tourniquet, which we immediately applied over the femoral artery; and having thus commanded the bleeding, we were able to remove our patient on to a narrow table close at hand, covered with a palliasse. We were soon joined by my partner, Mr. Warren Isbell, of Plymouth, and to both these gentlemen I am much indebted for their very valuable assistance.

We determined, in consultation, to lay bare the superficial femoral artery in Scarpa's triangle, and to apply a ligature to it in that situation. Our reasons for doing so I will state presently. This operation I performed about an hour after the accident, the ligature being applied nearly four inches above the wound in the vessel. The artery appeared small, flaccid, and semi-collapsed. On tightening the ligature, it was found to command the hæmorrhage from the vessel completely. In the exhausted state of the patient no chloroform was given; nor, indeed, was it necessary, for sensation and consciousness were at so low an ebb that he took but little notice of the operation. Both before and during the operation, brandy, ammonia, and chloric ether were unceasingly administered; for the pulse was still scarcely perceptible, and the face and extremities remained perfectly cold. He continued to shiver for some hours; and notwithstanding the constant application of warmth by means of hot-water bottles, and mustard poultices to the region of the heart, it was at least four hours before anything like warmth revisited the extremities. From that time reaction steadily set in, and within twelve hours the whole

surface, with the exception of the foot of the wounded extremity, had regained its temperature. The limb was kept raised, bandaged, and enveloped in flannel, and the tourniquet was left loosely round the thigh, the nurse being directed to apply it immediately should hæmorrhage recur.

His first night was a sleepless one, with constant starting and convulsive twitching, and considerable pain in the leg and foot, both of which, however, were now quite warm. Not to be wearisome with daily notes of the case, suffice it to say, that though placed under most unfavourable circumstances—having for ten days to lie on nothing better than a narrow wooden table covered with a thin straw palliasse, in the bar of a public-house, only separated from the constant noise inseparable from such a situation by a thin wooden partition about half the height of the room, and having on the tenth day (for till then we dared not move him) to be carried a mile to his own residence,—he nevertheless recovered steadily without the least tendency to gangrene, or any other bad symptom. The ligature separated on the nineteenth day, and both wounds, the accidental and the surgical, were soundly healed a few days later, very shortly after which he was able to walk again, and has now resumed his employment.

Believing this to be a case which might give rise to much discussion as to the propriety of the treatment, I beg leave briefly to remark on one or two points. Of course, the first impression, on finding that we had to deal with a wound of the femoral artery, was to cut down, find the wounded spot, and apply a ligature both above and below the wound; and I have no doubt there are many who would have sanctioned no other treatment in this individual case. But it appeared to myself and to my colleagues that there were two points which should greatly influence us in the operation we should recommend. The first point was the situation of the wound; the second, the state of the patient, only just alive from severe and exhausting hæmorrhage. As we are all aware, the artery near its termination lies at a considerable depth, covered not only by the sartorius muscle, but also by that dense tendinous expansion thrown across from the adductors to the vastus internus. It was thought that to apply two ligatures to the artery in this situation would be at least a tedious, if not a very difficult, operation, especially as the parts were already disturbed by the wound from the gouge, which had penetrated the sartorius muscle. Should there have been much difficulty or delay experienced about the operation, it would at least have increased the chances against recovery, and the loss of even a small quantity of blood might alone have sufficed to turn the scale against our patient, who was only kept from syncope by the constant administration of stimulants. On these grounds it was that we determined, as a first resource, and probably, we thought, only a temporary one, to command the hæmorrhage for the present by the simple operation of a ligature in Scarpa's triangle, being fully prepared, if secondary hæmorrhage should occur, to resort to the more orthodox operation; but trusting that by that time our patient would have at least recovered from his collapse, and have regained some little strength, and so be in a better position to undergo the more serious operation. Nor did we regard it as impossible that, from the extremely exhausted state of the patient, coagulation at the wound might be firmer than usual, and, we fondly hoped, firm enough to resist the feeble contractions of an artery so weakened by excessive hæmorrhage. The result, we hold, has justified our treatment. We attribute the non-occurrence of secondary hæmorrhage to the weakened state of the vessels, the contraction of which was not of sufficient force to displace the coagulum from the wound.

In conclusion, let it not be imagined that I hold up this case as a foundation for similar treatment in the generality of cases of wounds of large vessels. To do so would be to advocate a return to the old Hunterian treatment, long ago, and most properly, superseded. I regard the case as entirely exceptional; but should a *similar* case occur, I should have no hesitation in recommending a similar practice. Such cases must of necessity be few and far between, and would, of course, require great care and judgment to be exercised in their selection. In a few words, my deduction from the above case is, that if a large artery be wounded at a point where it is not easily accessible for the application of a ligature, and if at the same time there has been sufficient hæmorrhage to produce extreme exhaustion so as to threaten death by syncope, you may apply a ligature to the trunk of the artery where it is most easily accessible above the wound, not only with the certainty of immediately arresting the hæmorrhage, but also with a very fair prospect of recovery without secondary hæmorrhage.

Stonehouse, Plymouth, August, 1859.