

GUNSHOT WOUND OF ARM; RESECTION OF ULNAR NERVE; SUTURE AFTER DISPLACEMENT; RECOVERY.

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OPERATIONS involving resection of a nerve and junction of the resected ends are still of sufficient rarity to possess many points of interest to surgeons. The case which I intend to bring forward in this paper is of importance as another example tending to prove that union by first intention can occur in a divided nerve, the ends of which have been closely approximated by the surgeon. Létiévant, Arloing, and Tripier (according to Mr. Bowlby) have objected to recurrence of sensation in parts supplied by the divided nerve as offering proof of its restoration, for they argue that the other nervous trunks take the place in part of that which is injured, and convey the sensations in question. Mr. Bowlby, however, says that this supplementary sensibility is by no means so perfect as the sensations conducted by the normal nerve, at any rate for a considerable time after the section, if ever; and moreover, though the surrounding muscles may more or less supply the part of those paralysed, the latter are themselves absolutely powerless, and rapidly degenerate and atrophy. It is also stated by the same author that a rapid restoration of perfect sensation, together with an absence of wasting and a retention of the contractility of the muscles, may be taken as certain proof of the restoration of the continuity of the divided nerve. On these grounds my case may probably be considered an example of nerve union by first intention, and the method of displacement by which the divided nerve ends were approximated is one not mentioned by Bowlby in his excellent work. In the chapter on the treatment of complicated wounds of nerves he enumerates the following as the only methods which have been previously adopted in cases in which the divided ends of nerves could not be brought into contact:—1. Stretching of the proximal and peripheral ends, and fixation by sutures. 2. Létiévant's method of grafting the peripheral end on to a freshened surface of some sound neighbouring trunk. 3. Splitting of the proximal end longitudinally to a sufficient extent, and then making a cross section of one half of the nerve at the highest point to which the splitting is carried. The split portion is then turned down and placed as a sort of graft between the divided ends. 4. Nerve-grafting. In this method the sciatic nerve of a dog or a piece of nerve from some amputation case is inserted between the divided ends. This last method has been several times performed with more or less success, and to Mr. Bowlby I am again indebted for notes of the recorded cases. Tillemans used portions of a rabbit's nerve, and Kaufmann grafted with a portion of the sciatic nerve of a dog. In the latter case the result was doubtful at the end of two months. Mr. Mayo Robson's classical case is well known to all British surgeons. He used part of the posterior tibial nerve from a recently amputated leg, and sensation returned in thirty-six hours. The patient was shown at the Clinical Society on Jan. 25th, 1889. 5. Bergmann once overcame the separation of the divided ends by resecting a portion of the humerus, and so shortening the arm and enabling the nerve ends to be approximated. This case was unsuccessful. A sixth method which occurred to me during the course of an operation consists in freeing the nerve both upwards and downwards for some considerable distance, and then altering the course so as to shorten it, and do away altogether with the gap between the divided ends. In my case the ulnar nerve was thus removed from its usual site behind the internal condyle, and made to descend over the front of the elbow, the skin over which had been reflected to enable the nerve to be successfully stowed away. The plan answered admirably, and the restoration of sensation and function in the affected parts was as nearly as possible perfect. The accompanying engravings, from photographs taken in March, 1891, show the arm and fingers both flexed and extended; and when I started from Australia for England in April the patient had decided to return to his work as a miner.

Appended are short notes of the case, for which I am indebted to my friend, Mr. Anstey Giles, M.B. Edin.

"J. R.— first consulted Dr. Gardner on Dec. 8th, 1890, and stated that he had received a gunshot wound of the forearm on Aug. 19th, 1890, and had been treated in the Broken Hill Hospital, New South Wales, for six weeks, when he was discharged. Examination showed a wound on the inner side of the flexor surface of the forearm nearly cicatrised, and on the inner aspect of the arm another cicatrised irregular wound deeply stained with powder. There was absolute loss of sensation on the extensor surface of the hand over an area including the whole of the little finger and the half of the ring finger, and an equivalent surface on the ulnar side of the dorsum up to the wrist.



On the palmar surface the whole of the little finger and half of the next, with the corresponding part of the palmar aspect of the hand as far as the hypothenar eminence were anaesthetic. On Dec. 9th the patient was anaesthetised with ether, and the wound on the anterior surface of the forearm was reopened throughout its whole extent. Nothing abnormal was discovered, so the ulnar nerve was cut down upon at the back of the arm through the deeply stained cicatrix, and when exposed was apparently completely destroyed and deeply stained of a bluish-green colour. In its substance was a pellet of No. 4 shot, which was removed, and also the disorganised portion of nerve, which was an inch and a half



in length. An attempt was then made to bring the ends together, but the strain was so great that the stitches would not hold, but cut out almost immediately. It was then determined to make use of a plan which had once before been used in a case of division of the musculospiral nerve by a kick from a horse's hoof. The method adopted consists in dissecting the nerve from its bed for about six inches up the arm and an equal distance down the forearm. The skin over the front of the elbow was then reflected and the nerve brought across the anterior aspect, where it was readily united by three catgut sutures passed through the sheath and the nerve substance of the proximal and distal ends. The nerve thus joined was placed under the flap of skin which had been dissected up from the anterior aspect

of the forearm and in front of the internal condyle instead of behind it. The wound above and below was left open to prevent tension, and the skin covering the nerve was united by one suture to the skin on the back of the forearm. The wound was dressed with sublimate gauze and a splint applied to the arm in a partially flexed position. On Dec. 11th rough sensation returned in the fingers and continued to improve gradually until March, 1891, when it was practically normal, the lightest touch with a horsehair being readily felt at every point. The fingers could also be flexed and extended to their fullest extent, and the engravings will show how well flexion and extension of the forearm could be performed. The highest temperature recorded was 101.4° F. on the first evening after operation, and 100.4° on the second evening. After that it was never above 99°, and reached the normal on the eighth day."

Remarks.—The plan which I adopted in this case, although of limited application, adds another aid to the resources of surgeons dealing with destructive lesions of nerves, which in their normal way pursue a tortuous course.

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CASE OF HYSTERIA IN A CHILD SIX YEARS OF AGE FOLLOWING INFLUENZA.

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MARY T—, aged six years, was admitted into the hospital on June 4th, 1891. The family history is as follows: Father, mother, and three other children (four years, seven years, and ten years) all enjoy very good health. There is no history of hysteria, insanity, or other nervous affection in any of the family. One child died from convulsions during dentition. The patient was born naturally, cut her teeth early, and walked before she was a year old. With the exception of childish ailments she has had fairly good health; although never stout, and although she has not been to school, she knows her letters and can count, and has always been remarked as the brightest and most intelligent child of the family. About the middle of May the father was suddenly seized with influenza, and was confined to his bed for a week. Four days later the youngest child of the family was taken with it, and the following day the three other children, including the patient, were struck down with it. The mother did not entirely escape the disease, but was never confined to bed. Mary had it far more seriously than any of the others; she showed the usual symptoms—severe pains in the head, high temperature, &c., and is said to have been totally unconscious for about ten days. Since the attack she has slowly convalesced, and is now able to sit up in bed, but has neither walked nor spoken since the onset of the disease.

Condition on admission.—She lies in a very apathetic condition, but is perfectly conscious. Her eyes wander about in a furtive way, or when closed the eyelids are in a constant state of blepharospasm. When given a doll she holds it in an aimless manner, and does not play with it. A careful examination fails to detect any disease in either heart, lungs, or abdomen. The urine is free from albumen, the tongue is clean, and the bowels rather constipated. The pupils are widely dilated, but react to light. She is thin, but has good colour in her cheeks. All muscles react normally to electricity, and there is no motor paralysis. When she puts out the right hand it is affected with a wavy clonic spasm; the left is similarly affected, but to a less degree. Although she never speaks, she cries a great deal with a sort of perpetual whine, which evidently originates in the larynx. On June 8th she was made to sit up in bed. She moves her head slowly from side to side in an imbecile manner and appears to take little notice of anything. She has to be fed. Although she looks idiotic, it is very clear that she understands what is said to her. All efforts to make her talk have been in vain. She is perfectly insensitive to the prick of a pin in any part of the head, body, or limbs, even when such sensitive parts as under the nails of the fingers and toes are chosen as the seat of experiment. When taken

out of bed and held up under the arms she holds her legs at right angles to the trunk with the utmost obstinacy until compelled by physical exhaustion to allow them to drop. When thus treated she can just stand with a little assistance.—June 15th: The patient can now manage to walk a few steps alone, but soon begins to stagger and would fall were she not supported. She is still universally analgesic. She looks more sensible, but does not speak. There is still movement in the right hand, but it is mainly confined to the fingers, especially the index, which moves laterally even when the hand is at rest, and occasionally the left hand has the same movement, but it is not continuous. She gives her hand or puts her tongue out when told; she can pick up a pin quite well with either hand. For the last few days she has been compelled to feed herself. The treatment has consisted of the faradaic current and cold shower baths.—July 18th: Since the last note the patient has steadily improved; the analgesia has become less and less marked, so that at the present time the prick of a pin anywhere is clearly both felt and resented. The walk has become almost normal, and she walks daily from her bed into an adjoining ward. The movements of the hands have entirely ceased and she feeds herself quite easily. The greatest difficulty has been and is still experienced in compelling her to speak. This she never does unless under compulsion, and even then she only whines out single words which she is told to say, such as her own name, "Yes" and "No" &c. She never speaks spontaneously nor forms a consecutive sentence. On July 20th she was sent home.—July 23rd: Came as out-patient. Speaks more distinctly and smiles when joked with. Looks much more intelligent.—Aug. 6th: Brought again to the hospital. She has almost resumed her normal manner. Asks for what she wants and plays as usual with the other children. Sensation perfect.

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PARACENTESIS ABDOMINIS.

By W. F. HEARNDEN, M.R.C.S., &c.

THE following cases of paracentesis abdominis may be of some interest to the readers of THE LANCET, occurring as they did in private practice, and are such as come frequently under the notice of the general practitioner. Most works on medicine advise the operation of tapping the abdomen in ascites to be delayed as long as possible; still, at the same time, one cannot help thinking that it must be better for a patient with a large quantity of fluid in his abdomen to get rid of his burden quickly rather than wait for the various remedies, diuretic and purgative, which are ordered to be given in these cases, and which are admitted to act better after the operation is performed.

Looking through a few works on the subject, I find the following arguments for and against tapping. Watson: "Wherefore in my judgment paracentesis in abdominal dropsy ought seldom to be performed unless the quantity of liquid is so great as to occasion painful distension," &c. Strumpell: "Therefore we should not tap in ascites as a rule unless the indications for the operation are urgent." Fagge: "It [that is, tapping] is not to be held useless." "It affords great relief," and "should never be delayed when urgency of symptoms demand its performance." He also mentions a case of Dr. Grainger Stewart's, in which the patient with a syphilitic affection of the liver was tapped twenty-one times, and, 12,120 ounces of fluid having been removed, she regained a fair state of health. He states the prognosis is in all cases of ascites very unfavourable. With cirrhosis death occurs in six months, and implies that the operation should be put off as long as possible. In Quain's Dictionary of Medicine it is stated paracentesis should be put off as long as possible. Hughes Bennett: "Even then [referring to cases in which the swelling and embarrassment are very great], although temporary relief may be obtained by the operation, there is every reason to believe that in the majority of cases life is in no way prolonged." Niemeyer: "The abdomen should only be tapped where life is immediately endangered by obstruction of the respiration or by a threatened gangrene of the skin. Bristowe says: "This operation is usually delayed as long as possible, and on the whole no doubt properly so," but he