CASE REPORTS

AN EXCEPTIONAL CASE OF INJURY OF THE FEMORAL NERVE

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A recent article by Clare on femoral nerve repair reminded me of the following case which I observed in November 1950. It was quite similar to the one in which operation was performed by Scoville.

CASE REPORT

The patient was a young woman, 21 years of age, who had been operated upon elsewhere for appendicitis on July 7, 1950. Soon after the operation she experienced serious difficulties in the movements of her right leg.

Examination. On Nov. 5, 1950, she was seen in consultation with a neurologist (Dr. I. Ruggeri). The principal findings, apart from a scar in the right iliac fossa near Poupart’s ligament, were: atrophy of the right thigh, which measured 4.5 cm. less than the left in circumference. Active flexion of the thigh was possible, but with diminished force; extension of the leg was impossible; external rotation of the leg was limited; and the patellar reflex was absent. Anesthesia was present on the anteromedial surface of the thigh and the inner side of the leg and foot. There was faradic inexcitability of the quadriceps femoris and sartorius; these muscles showed reaction of degeneration. Evidently the right femoral nerve had somehow been injured in the course of the previous operation.

Operation. On Nov. 7, 1950 the nerve was exposed in both the iliac and inguinal fossae, through a T-shaped cut along the old scar and a lower perpendicular incision. Not only was there a complete section of the femoral trunk above Poupart’s ligament, but there was a noticeable displacement of both neuromatous stumps: the distal one cranially and medially, the proximal one in the retroperitoneal scar tissue. The two ends were freed from the surrounding scar, and the neuromas were resected, leaving proximally the well fasciculated end of the crural nerve trunk, and distally the section of two terminal branches. The gap between them measured about 5 cm. Suture, with fine silk, was possible after ample mobilization of the stumps, and flexion of the thigh. This position was fixed with a plaster spica, which was removed after 8 weeks.

Postoperative Course.

March 10, 1951 (4 months after operation): No change was evident.

Jan. 19, 1952 (14 months postoperative): Atrophy of the thigh was considerably diminished; active extension of the leg was possible. In the supine position the patient was able to lift the thigh from the bed, with the leg extended. Rotation of the leg appeared normal. The patient was able to walk without support, but found some difficulty in going upstairs. The anesthetic zone was less wide. Electrical responses of the quadriceps and sartorius were unchanged. The patellar reflex was absent.

Oct. 11, 1952 (about 2 years after operation): The circumference of the right thigh was only slightly less than that of the left. The force with which the leg could be extended was nearly normal, though some difficulty in going up and down, or in walking on uneven ground, persisted. The patellar reflex was still absent. There was moderate hypoesthesia (and sometimes hyperpathia) over a limited strip on the medial aspect of thigh and leg. There was no response to faradic stimulation of the quadriceps, and there was moderate reaction of degeneration.

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INJURY OF THE FEMORAL NERVE

Recently (over 5½ years after the nerve suture) we have written to the patient concerning her present condition, but failed to obtain any answer.

DISCUSSION

The infrequency of traumatic injuries to the femoral nerve (when compared to other peripheral nerves) might be ascribed to more than one cause: (a) the nerve is quite short, measuring only a few centimeters from its origin to its branching at the level of Poupart’s ligament; (b) it is well protected on its dorsal side, and is fairly deep on the ventral aspect; (c) its topographic relations with the iliac vessels, the intestine and the bladder may render difficult the clinical appreciation of its injuries, when they happen to be concomitant with injuries of one or more of these other structures. In fact, the patient may die in a very short time, and the acute and menacing symptoms are apt to obscure the neurological defects. Incidentally the latter might explain, at least partially, the considerable difference in frequency of injuries of the lumbosacral and the brachial plexuses.

It is rather difficult to understand how the femoral nerve came to be injured in the course of an appendectomy, when one considers that the nerve is not only retroperitoneal, but is also protected by the iliac fascia, and the nerve itself is fairly thick. Possibly there were very extensive adhesions.

Until I read about Scoville’s case6 I thought that mine was unique. The best way to cope with the disability caused by an interruption of the femoral nerve seems to be suture of the divided ends, either primary or secondary. The primary operation has many advantages: it is easier, and regeneration of the nerve is more prompt. But an operation done after some time has elapsed also should not prove too difficult, at least judging from the reports of Clare2 and Scoville,6 and the present case.

In the Italian literature I found a case of femoral nerve injury operated upon by Scaglietti3 (1942). The nerve had been injured at the groin by a shell fragment, which had also fractured the neck of the femur. At operation, 4 months after injury, the nerve was found embedded in dense scar tissue just at the level of the nerve’s branching. Suture was not considered feasible, and neurolysis was performed, without any improvement. As in Scaglietti’s case, suture may prove difficult when the interruption is at the level of the terminal branching of the nerve, especially if this is in the shape of a patte d’oie, instead of the division into two principal branches.3

Judging from the few cases published, it seems that suture of a divided femoral nerve may be followed by gratifying and fairly prompt results, which compare favorably with those obtained after suture of the radial nerve. As a matter of fact the function of these two nerves is very similar, and fairly simple, while reactions are executed by long and robust muscles. As is known from physiological and clinical grounds, such conditions favor recovery.1

REFERENCES

5. Scaglietti, O. Cited by Piccinini.4
6. Scoville, W. B. Cited by Clare6 (Case 2).