



Endoscopic assisted harvesting of sural nerve graft

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Introduction

Sural nerve harvesting is one of the most commonly practiced procedures in peripheral nerve surgery. Particularly in brachial plexus surgery or in multiple peripheral nerve injuries, the entire sural nerve and sometimes both sural nerves are harvested and sectioned into multiple cables to match the diameter of the recipient nerve. Classically a longitudinal incision along the sural nerve course is used, leaving a long and unpleasant scar particularly in young children as well as significant postoperative pain and discomfort. Here we present an alternative endoscopic assisted way to harvest the sural nerve through 2 small transverse incisions, each is about one inch long.

Methods

15 sural nerves were harvested in 12 patients using SSI endoscopic assisted harvesting system originally designed to harvest saphenous vein grafts for cardiac surgery. The system is composed of a hand-held retractor with built in port for a 4 mm telescope, a 40 cm fenestrated grasper and a 40 cm endoscopic microscissor. The course of the sural nerve is marked, 2 one inch transverse incisions are placed at the junction between the lower and middle thirds and between the middle and upper thirds of the nerve. The 2 incisions are carried down to the fascia, which is opened and sural nerve identified below the fascia, the hand-held retractor is tunneled below the fascia then the fenestrated grasper is used to hold the nerve within its fenestrum without any compression and the microscissor is used to separate the nerve from the undersurface of the fascia. Visual analogue score for postoperative pain, pain medication consumption and length of hospital stay were evaluated for the 15 sides and compared to historical controls in whom the nerve graft was obtained in the classic way.

Results

Endoscopic assisted harvesting of sural nerve graft resulted in a superior cosmetic outcome, less postoperative pain and less postoperative pain medications usage and a similar postoperative hospital stay.

Conclusions

In our experience, endoscopic assisted sural nerve graft harvesting is a superior alternative to the classic way

Learning Objectives

To know the technique of endoscopic assisted sural nerve harvesting

To learn the better clinical outcome

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