Improving Vein Harvesting In A Flap: What Can We Do?

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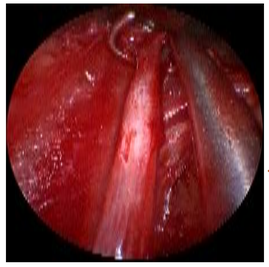
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Objective

Despite the growing trend towards performing full arterial revascularization, great saphenous vein remains the most commonly used conduit. Harvesting of vein in a flap with surrounding tissues ("no touch") and its perfusion without dilation allows to achieve high viability of vein as a conduit and maintain patency for a long time, however, causes a significant number of postoperative wound complications. The aim of our study was to compare the clinical and functional state of lower limb after endoscopic vein harvesting in a flap and skeletonized.

Methods

187 cases of endoscopic harvesting of great saphenous vein performed in 2018-2021 were analyzed. They were divided into 2 groups: group 1 (n=100) included patients who underwent endoscopic vein harvesting using skeletonized technique, the second group (n=87) included patients whom veins were harvested endoscopically in a flap. Concomitant pathology and other factors affecting the healing process of postoperative wounds were evaluated in both groups, no statistical difference was found.



EVH in a flap and skeletonized

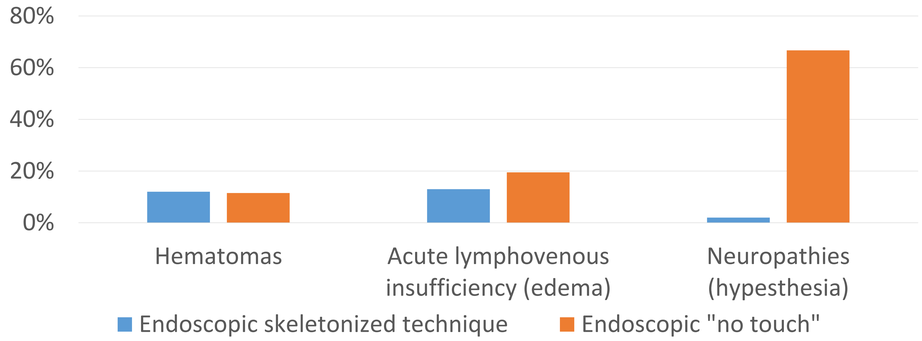


Wound complications were evaluated during hospitalization

Patients' characteristics	Skeletonized technique (100)	"No touch" technique (87)
Age	64.4±6.9	63.8±7.4
Male/female	80/20	72/15
BMI	31.9±4.1	31.8±4.5
Peripheral artery disease	70 (70%)	61 (70.1%)
Diabetes mellitus	38 (38%)	35 (40.2%)
NYHA III	65 (65%)	58 (66.7%)
NYHA IV	2 (2%)	2 (2.3%)

Results

During the examination in the early postoperative period, 17 complications (17%) from the lower limb were revealed in group 1, hematomas of lower leg were detected in 12 cases. In addition, there were 15 cases of acute lymphovenous insufficiency, manifested by edema up to the ankle. 20 complications (23%) in group 2 were diagnosed. Acute lymphovenous insufficiency occurred in 17 cases (19.5%), with edema spreading up to ankle. 10 patients (11.5%) had hematomas. However, in group 2 58 patients (66.7%) had neuropathies, manifested by hypesthesia in the area of vein allocation in the lower leg, which was only 2% in group 1.



Results

Endoscopic harvesting of vein in a flap allows to minimize surgical trauma and procure a conduit with a good prognosis of functioning, corresponding to modern standards of revascularization. The number of complications is small, equals to endoscopic harvesting of skeletonized vein and does not have any significant impact on the rehabilitation of patients. However, due to the fact that vein harvests in a flap together with n. Saphenous, there are frequent cases of decreasing of skin sensitivity in the lower leg.

Conclusions

- Great saphenous vein as a conduit has 2 main disadvantages: a large number of wound complications and a high percentage of dysfunctions in the postoperative period. Endoscopic vein harvesting perfectly solves the problem of wound complications, and vein harvesting using "no touch" method - with graft dysfunction. In our study, we decided to combine both of these promising areas and compare the results of the obtained method with results of endoscopic harvesting of skeletonized vein.
- Endoscopic vein harvesting using "no touch" method allows to minimize surgical trauma and procure a conduit with a good prognosis of functioning, corresponding to modern standards of revascularization.

