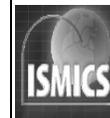




Safety and Efficacy of a Single System for Minimally Invasive Harvesting of Both Radial Artery and Saphenous Vein



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OBJECTIVE:

Minimally invasive vessel harvesting is becoming an important tool for CABG procedures. The devices available are particularly prone to radial artery or to saphenous vein harvesting but not for both. Aim of the study is to assess the safety and efficacy of a single system ideal for minimally invasive harvesting of both radial artery and saphenous vein.

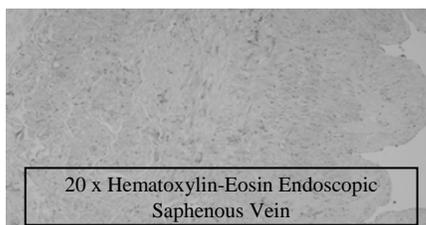


METHODS:

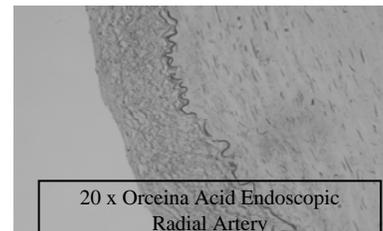
40 pts were prospectively randomized. Radial artery were harvested conventionally in 10 pts (Group Rc) and endoscopically in another 10 pts (Group Re); the saphenous vein was harvested conventionally in 10 pts (Group Vc) and endoscopically in another 10 pts (Group Ve). To compare any possible grafts damage due to endoscopic technique, we assessed endothelium-dependent and endothelium-independent relaxation of graft segments to sequential doses of acetylcholine and nitric oxide donor in standard organ-chamber. Comparative endothelial histological studies were also performed. The endoscopic device, used for minimally invasive harvesting of both radial artery and saphenous vein, is a coupled system of Datascope retractor and vessel dissector with the Starion thermal ligating shears..

RESULTS:

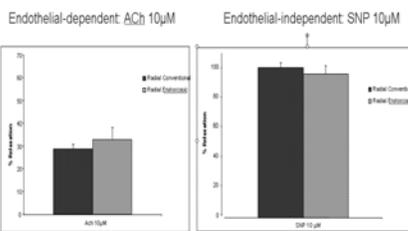
Preoperative characteristic were similar between group Rc and Re; only group Vc had an older age in respect of group Ve (p=0.015). The length of the graft harvested was similar between endoscopic and conventional groups (p= ns). Skin incisions were significantly smaller in the endoscopic groups and the patients satisfaction was higher in the endoscopic groups. No skin dehiscence was present in the endoscopic groups. The endothelium-dependent and endothelium-independent relaxation of graft segments did not show any statistical difference between the groups



20 x Hematoxylin-Eosin Endoscopic Saphenous Vein



20 x Orceina Acid Endoscopic Radial Artery



	Radial Conventional	Radial Endoscopic	P value
KCl 90mM Tension developed (g)	2.82 ± 0.43	2.74 ± 0.19	0.951
NE 10µM Tension developed (% KCl 90 mM)	90 ± 3	96 ± 8	0.741
Acetylcholine Emax (%)	29 ± 3	33 ± 5	0.594
SNP Emax (%)	103 ± 3	98 ± 6	0.314
SNP EC50 (µM)	0.21 ± 0.06	0.27 ± 0.06	0.283

CONCLUSIONS: This coupled system for endoscopic vessels harvesting does not alter radial artery and saphenous vein vasoreactivity and shows good results in term of time consuming and patient satisfaction. Datascope retractor and vessel dissector with the Starion thermal ligating shears represent a single safe and efficacy system for minimally invasive endoscopic harvest of both radial artery and saphenous vein.

