neuralgia, and patient satisfaction was improved with EVH compared with CVH. Operative time was significantly increased (WMD 15.26 min; 95% CI 0.01, 30.51), length of hospital stay was reduced (WMD −0.89 days; 95% CI −1.55, −0.15), and so were readmissions (OR = 0.53; 95% CI 0.29−0.98).

Reed [8] conducted a meta-analysis comparing leg wound infections following MIVH and CVH techniques. This showed a significant reduction in wound infection rates in favour of the MIVH group (OR = 0.19; 95% CI 0.14–0.25). Similarly, wound healing disturbance rates were significantly improved with MIVH technique (OR = 0.26; 95% CI 0.20–0.34).

Rao et al. [9] performed a meta-analysis of cost-effectiveness of MIVH. They estimated the health-related quality of life utility (HRQoL) on discharge to be 0.9443 after MIVH and 0.6815 after CVH. Six weeks postoperatively, the utility was 0.9599 after MIVH and 0.8219 after CVH. By using these calculated utility estimates, they suggested that MIVH is a cost-effective alternative to CVH techniques. The incremental cost-effectiveness ratio (ICER) of $19,858.87/quality adjusted life year (QALY) compares favourably with other health care interventions. Probabilistic sensitivity analysis demonstrated with a 95.6% certainty that MIVH was the most cost-effective technique at a cost-effectiveness threshold of $50,000/QALY.

7. Clinical bottom line

We conclude that EVH reduces the level of postoperative pain, length of hospital stay and wound complication, with a high level of patient satisfaction, but a sub-analysis of a large randomised control trial has recently called into question the medium- to long-term patency of grafts endoscopically harvested.

References


eComment: Endoscopic harvesting results in high quality vein and arterial grafts

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doi:10.1510/icvts.2009.227090A

We have read this article with interest [1]. Endoscopic graft harvesting has been an important technical improvement in coronary bypass surgery (CABG) during the recent years. The stigma of long skin incisions has overcome and associated wound healing difficulties have decreased, with subsequent improvement in early physical ability and shortened hospital stay [2, 3]. The study by Lopes and colleagues [4] is provocative and challenges this ‘improvement’ in CABG as graft-patency might be reduced. However, there are important limitations of the study as non-randomization and detailed operative data (coronary status, target vessels bypassed, endoscopic technique and devices used) are lacking. Patency rate might depend more on patient characteristics and target variables than the vein harvesting technique used. Nevertheless, the discussion on the safety of endoscopic vein harvesting reminds us of the importance of excellent graft harvesting in CABG. While it is common use to assign graft harvesting to a non-physician practitioner or a perfusionist, the more complex endoscopic graft harvesting as such an endeavor might require more experienced technical skills. We strongly believe that endoscopic graft harvesting results in high quality vein and arterial grafts if harvested correctly.

References


eComment: Minimally Invasive endoscope-enhanced venous conduit harvesting techniques

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doi:10.1510/icvts.2009.227090B

We would like to make some comments on the best evidence topic presented by Tennyson and collaborators, reporting whether (in patients undergoing coronary revascularization) endoscopic vein harvesting technique is superior to the conventional (open) approach [1].

A concern about wound morbidity associated with the conventional technique of saphenous vein harvesting has led to the development of a variety of minimally invasive techniques [2]. The endoscopic approach became popular because it offers better cosmetic results due to a shorter incision length than in conventional approach, and as a method that could evidently decrease the incidence of postoperative pain and infection, and reduce the costs of associated health care.