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 −1.15, −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–effect 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


Reference


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: Endoscopic harvesting results in high quality vein and arterial grafts

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We would like to make some comments on the best evidence topic [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.
Several studies were taken into consideration within this topic to compare the endoscopic technique with the open harvesting technique. We think that the impossibility to consider the results according to the exact harvesting device is one of the limitations of this study. Any conduit harvesting device available on the market follows almost the same less invasive (endoscopy-enhanced) preparation concept, but the harvesting technique, the technical characteristics of the device, the working conditions and supposedly the quality of the harvested veins are not the same. Minimally invasive conduit harvesting techniques are evolving and probably will ever do so because of increasing attractiveness, hospital interests, industrial influence, etc. But one thing is clear: smarter harvesting solutions/techniques are necessary to allow harvesting venous conduits of a quality comparable to those prepared in a conventional way, as the number one criterion for comparison has to be the avoidance of conduit quality alteration [3].

A biased patient satisfaction, difficult-to-measure postoperative pain and scar will certainly remain important issues. Further studies on a larger group of patients will probably be helpful in revealing the risk of perioperative endothelial damage. Mid-term and long-term graft patency results should not be overshadowed by aesthetic, economic or other reasons, thus enabling us to identify, really ‘is it safe to perform endoscopic vein harvest or not?’.

References

