MINIMALLY INVASIVE CORONARY ARTERY BYPASS

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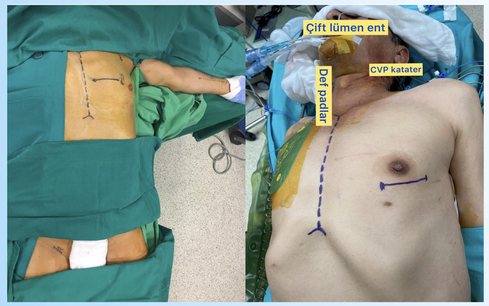
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Background

Over decades median sternotomy has a been a gold standard approach for treatment of isolated multivessel coronary artery disease but this traditional approach has been associated with sternal wound healing complications leading to remarkable morbidity and mortality. Our aim was to describe our technique of left anterior minithoracotomy through fourth intercostal space for treatment of patients with multivessel coronary lesions

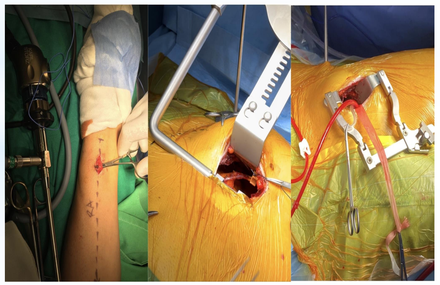
Conclusion

CABG via left anterior thoracotomy is equally effective as traditional sternotomy but less invasive,quick recovery and is so promising in terms of less morbidity and mortality. It might be an alternative to sternotomy incision and percutaneous techniques.Further studies are needed for standardization of our technique



Material and methods

Our experience includes 100 consecutive patients who were operated with the same surgical team. Left internal thoracic artery was harvested in all patients by the aid of rib retractor. All patients were operated under cardiopulmonary bypass (CPB) with blood cardioplegia through left minianterior thoracotomy of 5cm-7cm. All other grafts(radial artery,saphenous vein) were harvested endoscopically.





Results

We had one mortality(1%) due to non cardiac related cause, no early postoperative myocardial infarction was observed . No convertion to sternotomy(0%). Seven patients had postoperative atrial fiblillation(7%), 2 patient suffered postoperative stroke(resolved with minor neurologic deficit)(2%), 4 patients had revision due to postoperative bleeding(4%) perfomed through the same incision(no sternotomy was required). The mean number of bypass was 3.6 ±0.8, cross clamping time was 78.1 ± 20.6 minutes, cardiopulmonary bypass time was 153.2 ± 37.5 minutes,entubation time was 6.3± 11.3 hours, intensive care unit(ICU) stay was 1.6± 1.8 days, hospital stay was 4.9± 3.1 days

References

Rogers CA, Pike K, Angelini GD, et al. An open randomized controlled trial of median sternotomy versus anterolateral left thoracotomy on morbidity and health care resource use in patients having off-pump coronary artery bypass surgery: the Sternotomy Versus Thoracotomy (STET) trial. *J Thorac Cardiovasc Surg*. 2013;146(2):306-16.e169. doi:10.1016/j.jtcvs.2012.04.020

Nambala S. Minimally invasive total arterial off-pump coronary revascularization: A reproducible technique. *Turk Gogus Kalp Damar Cerrahisi Derg*. 2019;27(4):455-457. Published 2019 Oct 23. doi:10.5606/tgkdc.dergisi.2019.01905

Babliak O, Demianenko V, Melnyk Y, Revenko K, Pidgayna L, Stohov O. Complete Coronary Revascularization via Left Anterior Thoracotomy. *Innovations (Phila)*. 2019;14(4):330-341. doi:10.1177/1556984519849126

Bonaros N, Schachner T, Kofler M, et al. Advanced hybrid closed chest revascularization: an innovative strategy for the treatment of multivessel coronary artery disease†. *Eur J Cardiothorac Surg*. 2014;46(6):e94-e102. doi:10.1093/ejcts/ezu357

Green KD, Lynch DR Jr, Chen TP, Zhao D. Combining PCI and CABG: the role of hybrid revascularization. *Curr Cardiol Rep*. 2013;15(4):351. doi:10.1007/s11886-013-0351-9

Habib RH, Dimitrova KR, Badour SA, et al. CABG Versus PCI: Greater Benefit in Long-Term Outcomes With Multiple Arterial Bypass Grafting. *J Am Coll Cardiol*. 2015;66(13):1417-1427. doi:10.1016/j.jacc.2015.07.060

Emery RW, Arom KV, Flavin TF, Emery AM. A case for minimally invasive coronary surgery as primary treatment for left anterior descending coronary artery disease. Eur J Cardiothorac Surg. 1999 Nov;16 Suppl 2:S112-6. PMID: 10613570.

Detter C, Reichenspurner H, Boehm DH, Thalhammer M, Raptis P, Schütz A, Reichart B. Minimally invasive direct coronary artery bypass grafting (MIDCAB) and off-pump coronary artery bypass grafting (OPCAB): two techniques for beating heart surgery. Heart Surg Forum. 2002;5(2):157-62. PMID: 12114131.