

Minimally invasive Coronary artery bypass graft: Is this the future of traditional CABG?

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Madam, Minimally Invasive Coronary Artery Bypass Graft (MICS CABG) is a newly developed cardiac surgical technique that eschew median sternotomy and its correlated intricacies, while encouraging rehabilitation and conserving the advantages of surgical revascularization. For several decades, guidelines have stated coronary artery bypass grafting (CABG) as the benchmark revascularization procedure for multivessel and left main coronary artery disease (CAD)¹. Nevertheless, CABG by sternotomy is an immensely intrusive measure correlated with various post-surgical adverse consequences. Furthermore, when given the option, majority of patients favoured percutaneous coronary intervention (PCI) over CABG to treat CAD, even with a high 1-year death risk and the possibility of repeat procedures in the case of PCI². Thus, minimally encroaching techniques such as MICS CABG have been developed to re-envision surgical revascularization and direct attention to patient's liking for a less aggressive procedure while sustaining the clinical result precedence of CABG over PCI.

Multiple studies have reported promising clinical outcomes of MICS CABG, rendering it a feasible and secure surgical technique that is affiliated with exceptional short-term results and quick graft patency³. A recent⁴ study by Zhang et al. reported angiographic data to assess graft patency in 186 patients who underwent MICS CABG utilizing the left internal thoracic artery (LITA) and saphenous vein (SV); they delineated encouraging results with 99.5% complete revascularization and total graft patency rate of 96.3%. Furthermore, MICS CABG has gained precedence over CABG concerning the lower exchange of blood products, decreased frequency of chest scar infection, and enhanced postoperative physical recovery⁵.

These findings should be seen as a matter of keen interest in Pakistan where patients that report with CAD are usually

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DOI: 10.47391/JPMA.8420

in weak physical condition with multiple comorbidities such as high Blood Pressure (BP) and Type 2 Diabetes Mellitus (T2DM); which puts them at a greater risk of poor post-operative prognosis after conventional CABG despite the prompt requirement of the procedure. Such patients, along with those who avoid such invasive surgeries should be given this option as a safe alternative to CABG. Finally, it is of paramount significance that experts who desire to operate using this procedure to be equipped with authenticated, unbiased evaluation of the effectiveness and quality of this method. Whether MICS CABG in its present condition is apposite worldwide remains debatable, still the key finding is that multivessel coronary revascularization can be carried out with outstanding procedural and patency results. Upcoming studies should prioritize enhancing the generalizability and duplicability of this technique.

Submission completion date: 18-11-2022

Acceptance date: 26-01-2023

Disclaimer: None to declare.

Conflict of Interest: None to declare.

Funding Sources: None to declare.

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