Total Arterial Minimally Invasive Coronary Artery Bypass Grafting: Safety, Feasibility and Outcome

Dr Aakash Joshi • Dr Sumit Modi • Dr Chirag Doshi

UN Mehta Institute of Cardiology and Research, Ahmedabad, India

BACKGROUND

Total arterial minimally invasive CABG combines the long-term durability of arterial grafts with reduced surgical trauma. This study evaluates perioperative safety and long-term outcomes of off-pump total arterial MICS-CABG in a high-volume tertiary cardiac center.

METHODS

Retrospective observational study performed between January 2018 and May 2025. A total of 94 patients underwent elective off-pump total arterial MICS-CABG via left anterior mini-thoracotomy.

KEY PERFORMANCE METRICS

Key Metric	Result
Total Patients	94
Total Arterial Revascularization	100%
Sequential Grafting	36.2%
No Conversion to Sternotomy	100%
No Blood Transfusion	37.2%
Hospital Mortality	1.1%
Late Mortality	5.3%
Mean ICU Stay	5.7 days
Mean Survival	7.4 years

CONCLUSION

Total arterial MICS-CABG is technically feasible with low perioperative morbidity, minimal transfusion requirements, excellent survival, and rapid postoperative recovery. These findings support routine adoption in selected multivessel coronary artery disease patients.