

The role of echocardiography in minimally invasive cardiac surgery

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KEYWORDS: minimally invasive, cardiac surgery.

CITATION: *Cardiol Croat.* 2022;17(9-10):237. | <https://doi.org/10.15836/ccar2022.237>

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Goal: Aim of the article is to present our experience in minimally invasive thoracotomy in relation to the current state of literature. Minimally invasive thoracotomy has been progressively used in heart surgery, becoming a viable alternative to standard full sternotomy. Potential advantages are associated with decreased surgical trauma, shorter intensive care unit and hospital stays, enhanced patient satisfaction and sense of recovery. The operative challenges include restricted view and access to the operative field, longer aortic cross-clamp time, and cardiopulmonary bypass time¹.

Patients and Methods: During the period between 2020 and 2022, we performed 209 minimally invasive thoracotomy at the Clinic for Cardiovascular Surgery, Clinical Center University of Sarajevo.

Results: Minimally invasive thoracotomy is procedure that is now being routinely performed. A detailed preoperative assessment is required for selecting patients, and echocardiography is an essential imaging method for heart evaluation. Preoperative transthoracic (TTE) or transesophageal echocardiography (TEE) is used to precisely characterize cardiac morphology and function. Intraoperative TEE is employed to confirm previously found pathological changes, to guide the operative procedure in phase of cannulation, myocardial protection, to assess the effectiveness of deairing maneuvers, to identify complications during the operation. Furthermore, postoperative TTE and/or TEE is performed to elucidate various etiologies of perioperative hemodynamic instability, allowing identifying and managing complications accurately and efficiently.

Conclusion: Improving minimally invasive cardiac surgery is still an on-going process and sharing the experience is essential for further development. Evolving use of non-invasive cardiac imaging is crucial for patient care within this field and holds great potential for the future of echocardiography².

RECEIVED:
November 4, 2022

ACCEPTED:
November 10, 2022



LITERATURE

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