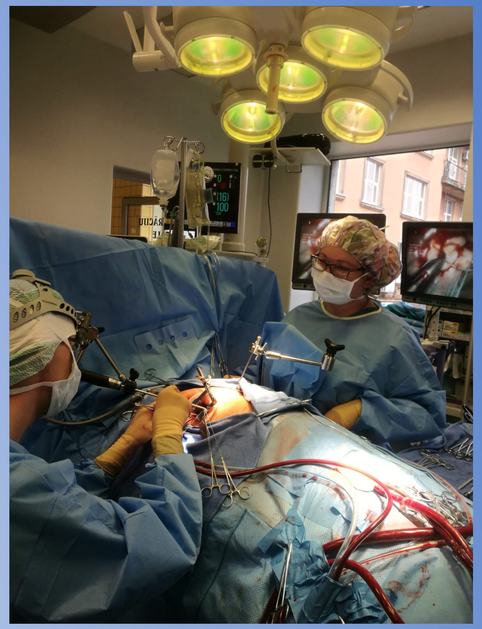
# Minimally Invasive Surgery In Low Volume Centres - Is It Safe And Effective

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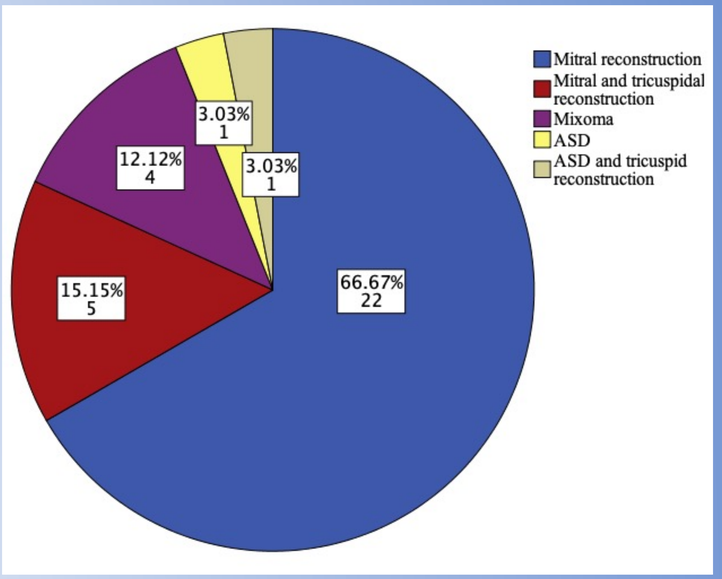



OBJECTIVE: Although minimally invasive mitral surgery is a standard operating technique in specialized centers, there is a concern that centers with limited experience and small yearly case load might demonstrate suboptimal results. This study evaluates the feasibility and safety of minimally invasive mitral valve surgery in our hospital with limited experience in video-assisted endoscopic cardiac surgery .

METHODS: 33 patients underwent minimally invasive operations via right minithoracotomy between March 2015 and December 2020. All operations were performed with right anterolateral minithoracotomy. Cardiopulmonary bypass was established using the right femoral artery and vein (open access), in case of tricuspid valve or atrial septal defect- extra jugular vein cannula was used. Aorta was clamped through intercostal space with Chitwood clamp. There were 22 isolated mitral valve reconstructions (same cases also PFO- patent foramen ovale ), 5 Mitral and Tricuspid valve reconstructions, 1 isolated ASD (atrial septal defect) patch closure in a 14-year-old girl after unsuccessful catheter-based ASD closure, 1 ASD closure and tricuspidal valve reconstruction, 4 myxomas extirpations.

**Results**

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|---|---|
| Resternotomy due to bleeding | 0 (0.0%) |
| ECMO | 1 (3.0%) |
| Conversation to full sternotomy | 2 (6.1%) |
| Endocarditis | 1 (3.0%) |
| Moderate/Severe mitral valve insufficiency | 1 (3.0%) |
| Mortality | 0 (0.0%) |




RESULTS: There were no deaths, there were 2 conversions to full sternotomy- first case due to significant residual mitral regurgitation (it was second MICS case) and second one- due to left atrial appendage damage. One Patient was reoperated on 9th postoperative day because of significant moderate-severe regurgitation due to neochordae tearing from posterior mitral leaflet. One patient was operated 2 years later because of mitral endocarditis. There were no reoperations due to postoperative bleeding. One patient suffered postoperative low cardiac output syndrome and was successfully treated with V-A ECMO and discharged home.

CONCLUSIONS: Despite a small number of MICS cases, it can be performed safely and with good early and mid-term clinical result. It would be necessary to perform such operations more frequently to make them even safer and more efficient.