



Redo 3D Port Access Minimally Invasive Tricuspid Valve Surgery A Single Center Experiences



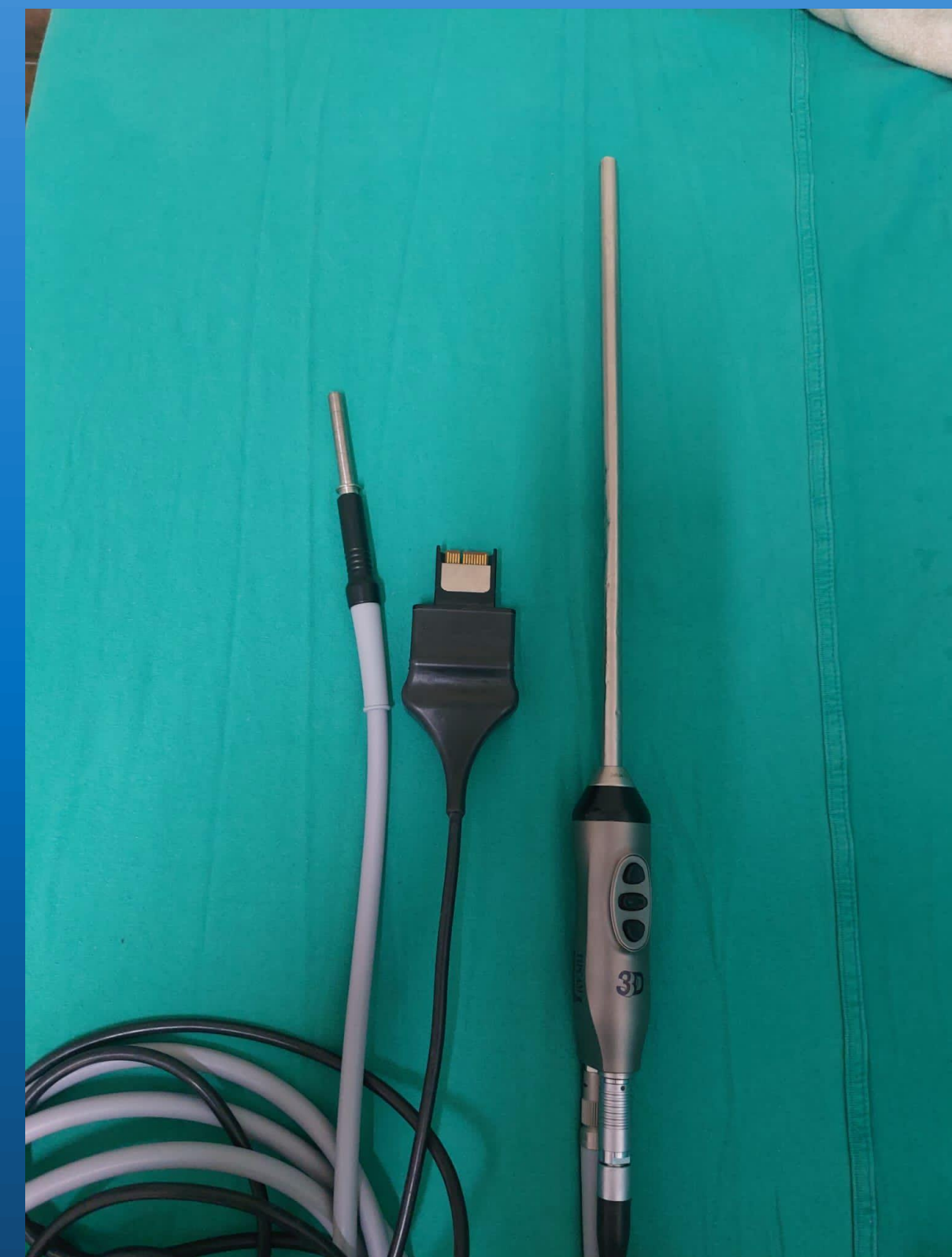
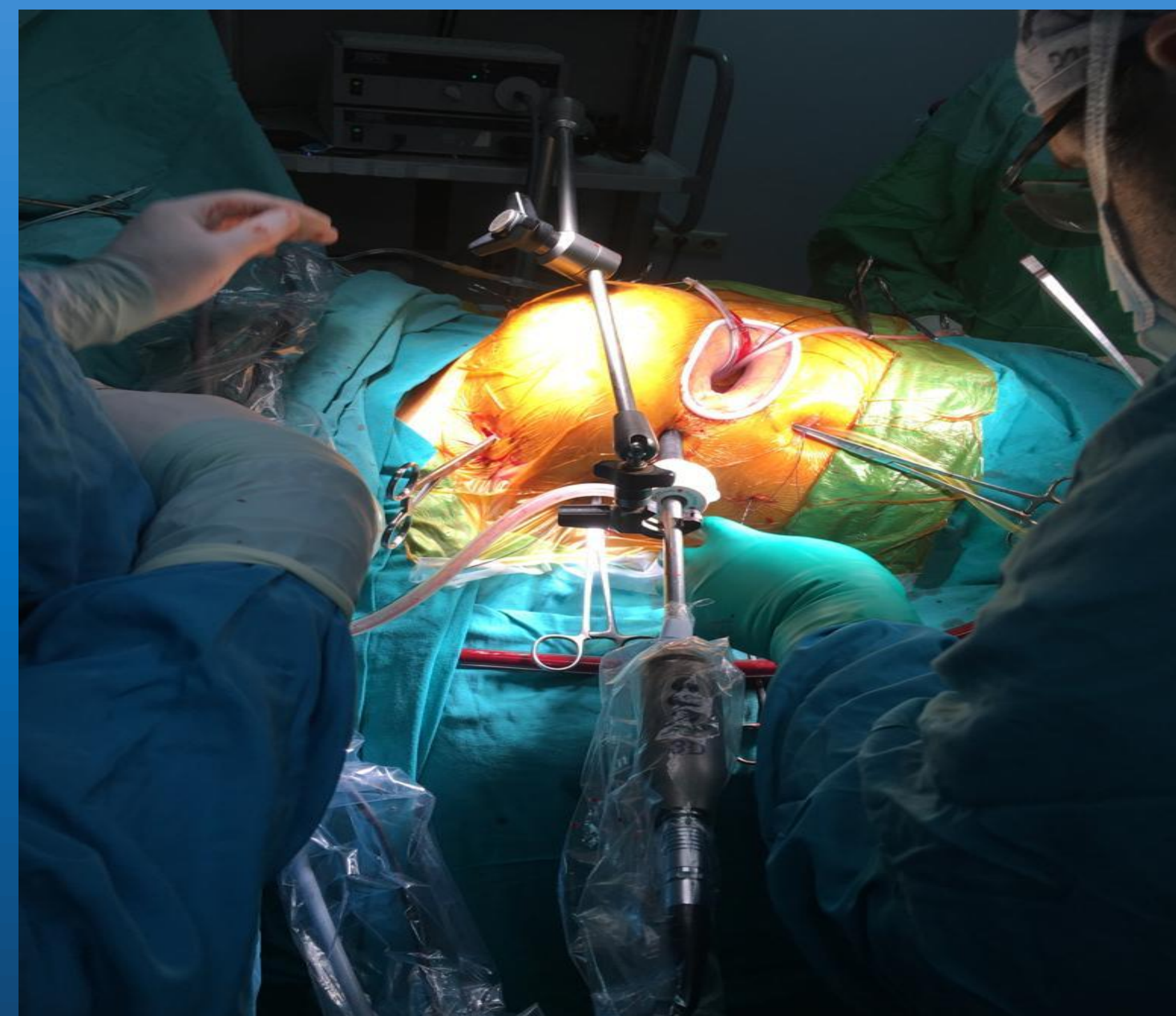
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BACKGROUND

Severe tricuspid regurgitation following left-sided valve surgery is a relatively common occurrence. Redo isolated tricuspid valve surgery after left sided valve surgery is associated with significant risks, including high morbidity, mortality and bleeding risk. Determining the optimal timing and surgical technique for the procedure remains a matter of debate. Therefore, we analyzed our single-center experience with the port-access minimally invasive approach for redo isolated tricuspid valve surgery in patients previously treated for left-sided valve diseases.

METHODS

A total of 41 consecutive patients who had previously undergone mitral valve surgery via sternotomy, underwent redo isolated tricuspid valve surgery using a port-access minimally invasive technique through a right mini thoracotomy at our center between March 2016 and September 2024. The mean age of patients was 65.4 ± 9.4 years, and 26 patients (63.4%) were women. Follow-up was 92.6% complete, with a mean duration of 12.4 ± 2.3 months.



RESULTS

Peripheral cannulation was performed using the right internal jugular vein by dedicated cardiac anesthesia team, while the right femoral artery and vein was prepared using seldinger technique with the cut-down incision. A 3D endoscope was utilized in all cases which were performed with on-pump beating heart. Tricuspid valve replacement with bioprosthesis was performed in all patients (100%). The mean cardiopulmonary bypass time was 65.3 ± 19.0 min. The overall hospital and intensive care unit (ICU) stay were 15.6 ± 8.6 and 5.2 ± 3.8 days, respectively. The in-hospital and the 30-day mortality rate were each 4.8%. Postoperative complications included prolonged ventilation in five patients (12.1%), acute kidney injury in four patients (9.7%), neurologic event in one patient (2.4%), wound infection in two patient (4.8%). The total drainage amount was 1150 ± 450 ml and the amount of red blood cells unit transfused to patients was 4.8 ± 4.1 . A total of 95.2% patients were discharged uneventfully.

Characteristics & Results	
Age	65.4 ± 9.4 years
Follow-up	12.4 ± 2.3 months
CPB time	65.3 ± 19 min
Hospital stay	15.6 ± 8.6 days
ICU stay	5.2 ± 3.8 days
30-day mortality	4.8 %
Complications	
-Prolonged ventilation	12.1 %
-Acute kidney injury	9.7 %
-Neurologic event	2.4 %
-Wound infection	4.8 %
Total drainage	1150 ± 450 ml
Red blood cell transfusion	4.8 ± 4.1



CONCLUSION

The 3D port-access minimally invasive technique provides an enlarged stereoscopic vision for redo tricuspid valve surgery in patients with previous mitral valve surgery history is feasible and safe option with excellent early and midterm results.