

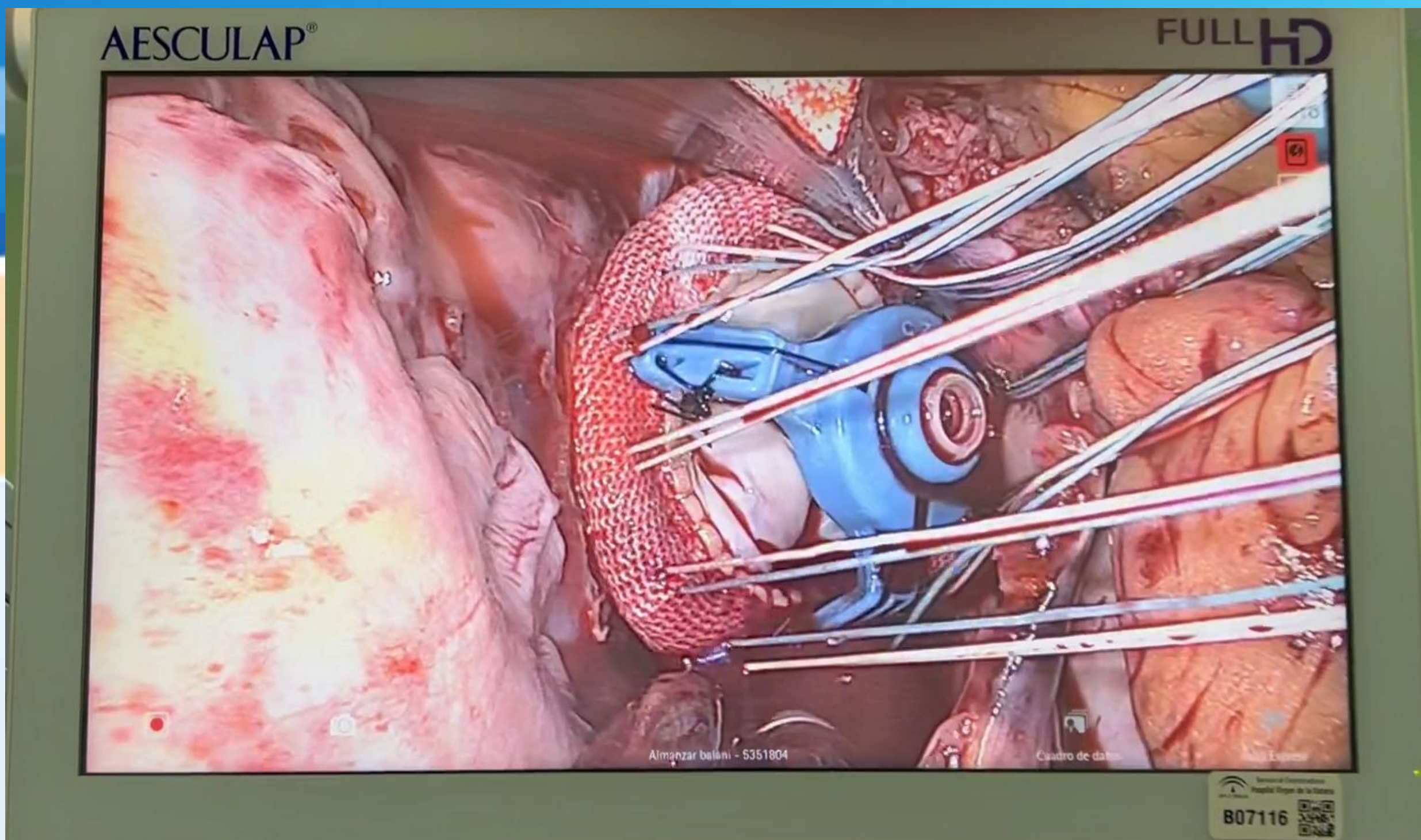
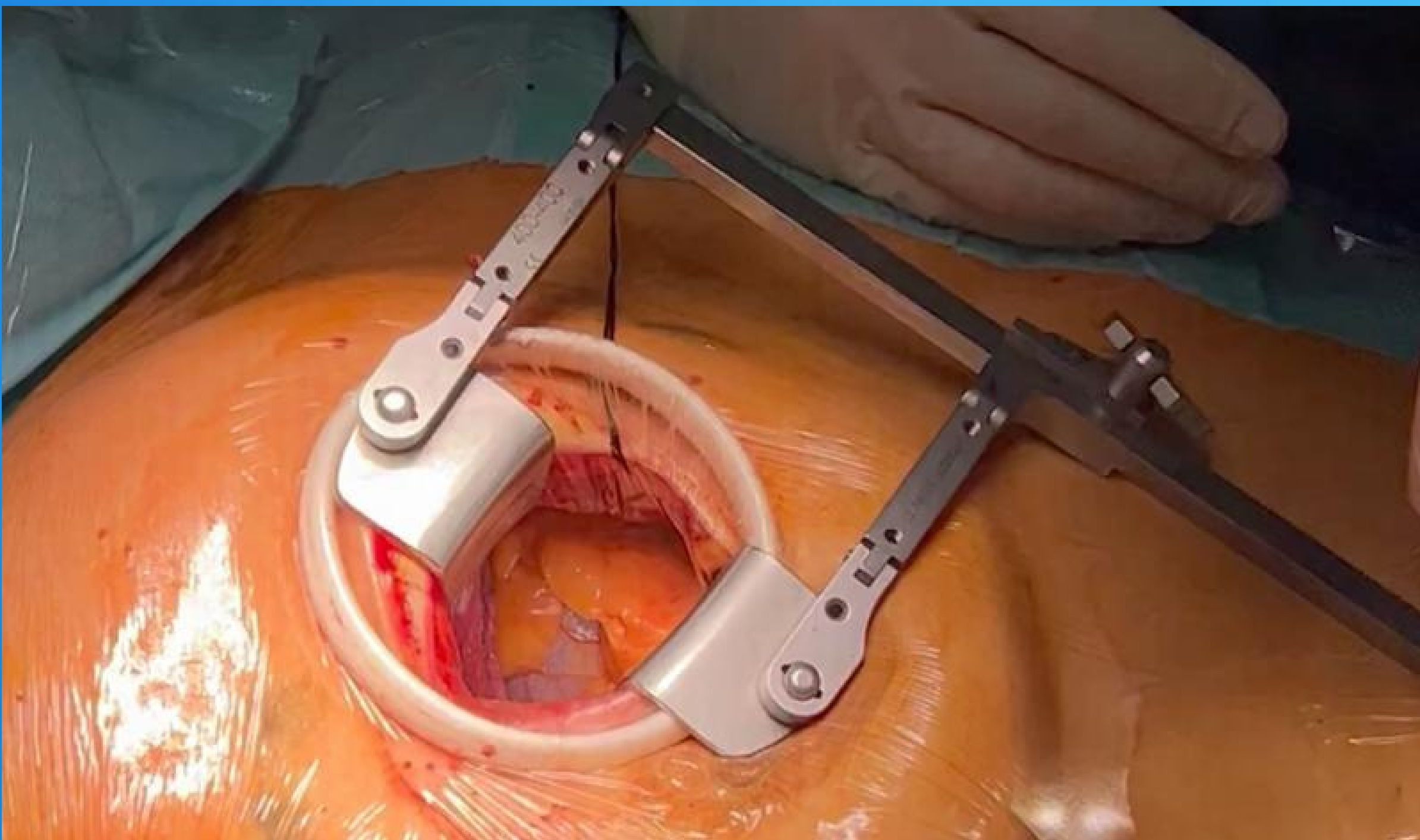
Minimally Invasive Isolated Tricuspid Valve Surgery Experience at a Single Centre

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Preoperative data	
Mean age (years)	63
Range	42-77
Gender, n (%)	
Female	22 (76)
Male	7 (24)
Risk factors, n (%)	
Atrial fibrillation	29 (100)
Pulmonary hypertension	22 (76)
Previous cardiac surgery	18 (62)
Hypertension	17 (56)
Right ventricle failure	12 (41)
Dyslipidemia	7 (24)
Pacemaker carriers	5 (17)
Previous tricuspid surgery	5 (17)
Chronic renal failure	4 (14)
Diabetes	4 (14)
Peripheral arteriopathy	2 (7)
Cirrhosis/PHT	1 (3)
EuroSCORE II (% mean, SD)	4.10(2.43)
Mean NYHA functional class	III
Preoperative levosimendan	22 (76)

Background: Tricuspid valve disease has been steadily increasing, raising concerns about the morbidity and mortality associated with surgery when performed via conventional sternotomy. In this context, the clinical and aesthetic advantages of isolated tricuspid surgery by right anterior mini-thoracotomy without aortic clamping are presented.

Methods: A case series of 29 patients who underwent minimally invasive isolated tricuspid valve surgery in our center, from 2014 to 2023, have been studied retrospectively. The operation was performed by right anterior mini-thoracotomy without caval exclusion and without aortic clamping to a beating heart assisted by 3D videothoracoscopy. Preoperative levosimendan was administered in 22 patients with severe pulmonary hypertension and/or right ventricular dysfunction.



KEY POINTS

- ✓ 3D VIDEO-ASSISTED TRICUSPID VALVE SURGERY IN A BEATING HEART
- ✓ RIGHT MINITHORACOTOMY IS ASSOCIATED WITH FASTER RECOVERY INCLUDING REDO PATIENTS
- ✓ DELAY IN TRICUSPID REGURGITATION SURGERY HAS NO BENEFITS
- ✓ PREOPERATIVE LEVOSIMENDAN IMPROVES RIGHT VENTRICLE AND PULMONARY HYPERTENSION ECHO PARAMETERS
- ✓ MINIMALLY INVASIVE TRICUSPID VALVE SURGERY IS SAFE AND EFFECTIVE

Results: 28 tricuspid valve replacement and one repair were performed. Average patients age was 63 years old (SD 8). 18 patients (62%) had previous cardiac surgery. 22 patients (75,8%) had severe pulmonary hypertension and 12 (41,3%) had right ventricle dysfunction. Average EuroSCORE II was 4,10%. In-hospital mortality was 3,4% (one patient). The average extracorporeal circulation was 109 minutes (SD 41). There was a reoperation due bleeding and a permanent pacemaker implantation in the fourth postoperative day (3,4%). Temporary renal replacement therapy was required in 21% (6 patients). The median length of hospital stay was 7 days.

Conclusions: Minimally invasive isolated tricuspid valve surgery is a safe technique as a definitive treatment of isolated tricuspid valve disease with a low mortality and morbidity.

Perioperative data	
Mean CEC time, SD (min)	109 (41)
Median hospital lenght stay (days)	7
Blood transfusion, n (%)	1 (3.4)
Major complications, n (%)	
In-hospital mortality	1 (3.4)
AMI	0
Stroke	0
Aortic dissection	0
Temporary renal replacement therapy	6 (21)
Postoperative Interventions, n (%)	
Reoperation due to bleeding	1 (3.4)
Pacemaker implant	1 (3.4)
Minor complications, n (%)	
Low cardiac output	5 (17)
Prolonged ventilation	0
Surgical wound infection	0
Pulmonary hernia	0
Pneumothorax	1 (3.4)
Pleural efussion (> moderate)	2 (7)