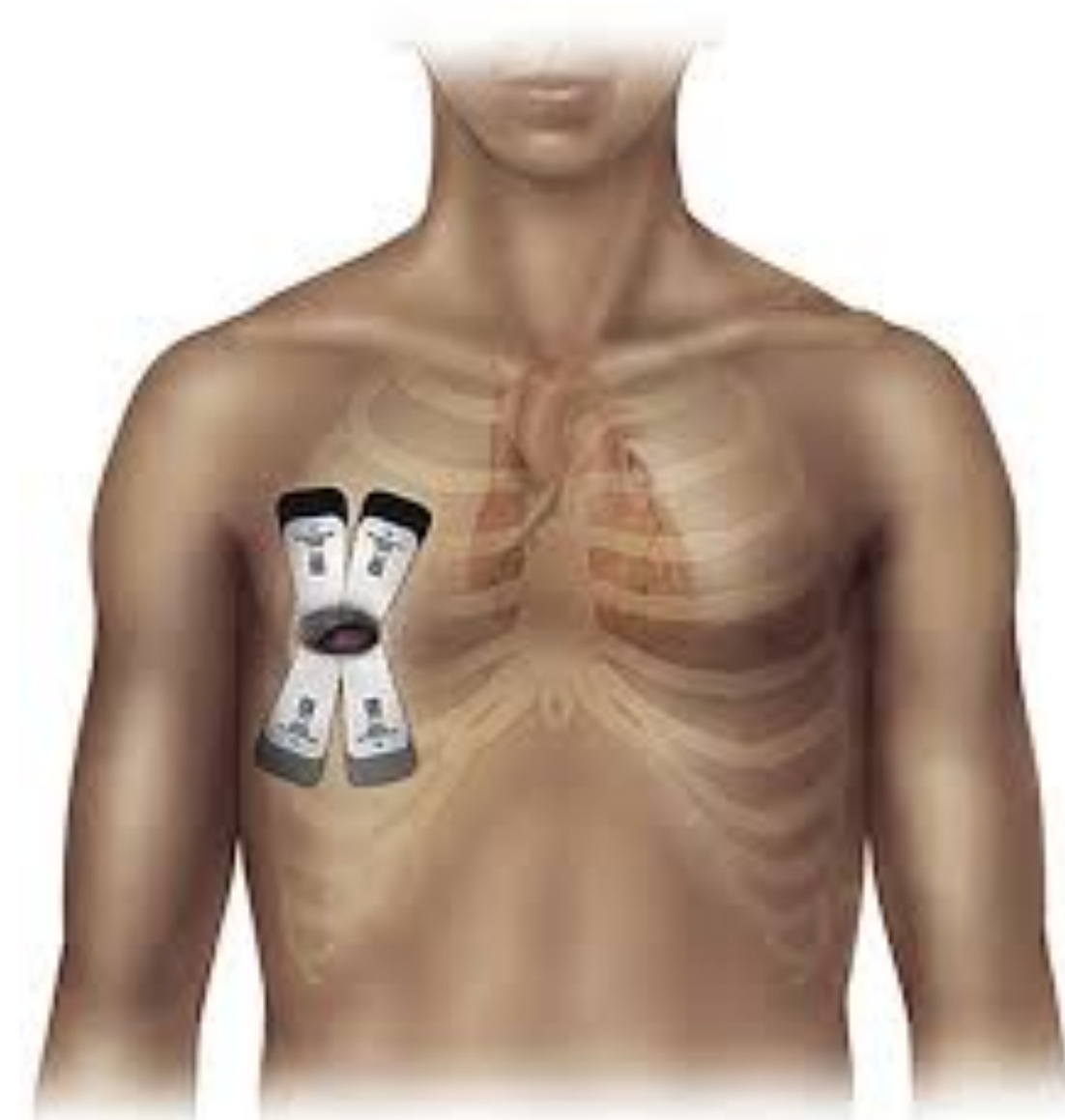
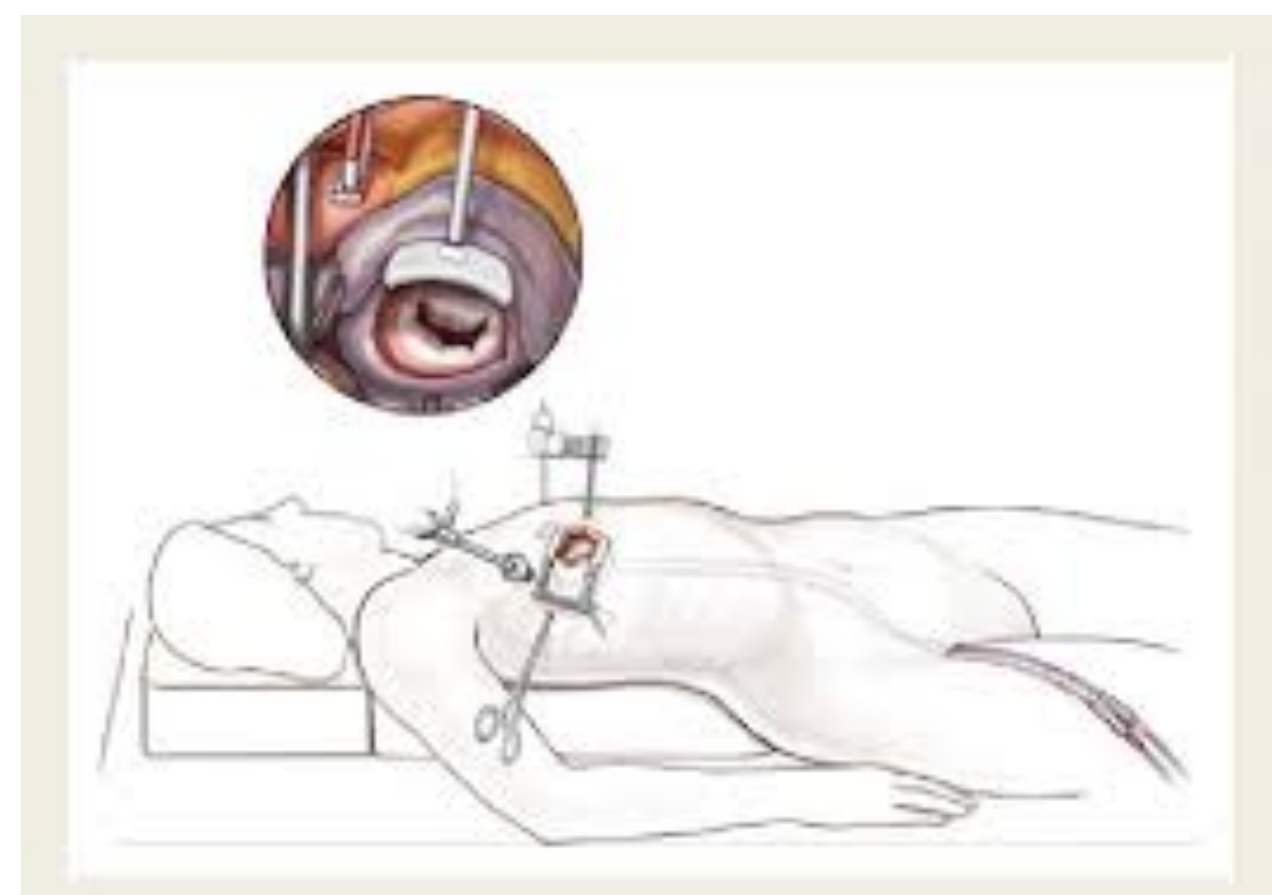


Introduction and Methods

Redo cardiac surgery through median sternotomy still represents a challenge procedure due to the presence of dense adhesions, complex valve exposure and to the high risk of injuring cardiac structure or previous graft. The use of a **minithoracotomy approach** may reduce the surgical complexity. We report our experience performing redo mitral valve surgery through a right-sided mini-thoracotomy.

From march 2010 to November 2023, 64 patients underwent redo mitral valve surgery through right anterior thoracotomy at our institution



The **median time from the original operation** to redo surgery was 6.1 (1.0-10.3) years.

First surgery was mitral repair in 58% of patients, mitral valve replacement in 17%, Coronary Artery Bypass Grafting in 12% and Aortic valve Replacement in nearly 8% of our population.

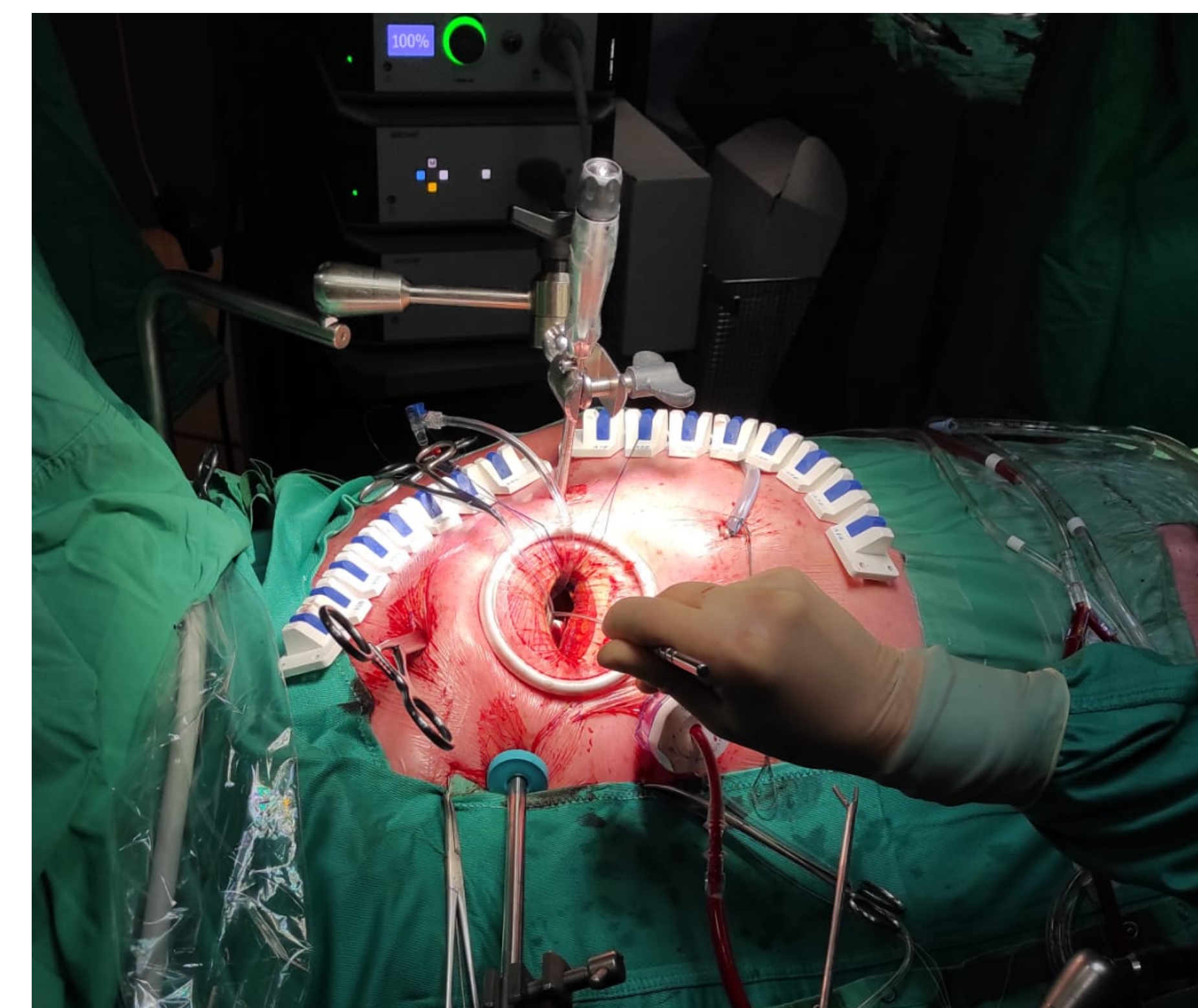
Four patients (6.2%) were affected by **active endocarditis** at the time of surgery.

	N (%)
Age, median (Q1-Q3)	68 (56-76)
Sex, female (n, %)	25 (39)
Active endocarditis (n, %)	4 (6.2)
Previous cardiac surgery (n, %)	64 (100)
EuroSCORE logistic, median (Q1-Q3)	9.64 (5.4-17.87)
EuroSCORE II, median (Q1-Q3)	3.83 (2.53-7.22)

Results

Median CPB and cross-clamp times were 118 and 81 minutes, respectively. Mean postoperative adverse events are reported in the table. One patient (1.5%) required re-intubation, dialysis and ECLS, for a septic shock that finally caused exitus. Median ventilation time was 6 hours. Median ICU and in-hospital length of stay were 2 and 10 days respectively.

No conversion to full sternotomy was necessary



	N (%)
Post-operative AF	13 (20)
PM implantation	8 (13)
Stroke	1 (1.5)
Resternotomy for bleeding	2 (3)
Sepsis	1 (1.5)
CVVH	1 (1.5)
Intubation > 72 hours	1 (1.5)
RBC transfusions	34 (53)
X-Clamp time median (Q1-Q3)	81 (60-108)
CPB time, median (Q1-Q3)	118 (80-147)
Ventilation time, median (Q1-Q3)	6 (5-14)
ICU days, median (Q1-Q3)	2 (2-3)
LOS days, median (Q1-Q3)	10 (8-15)
In-hospital mortality	1 (1.5)

In-hospital and 30-days mortality was 1.5%.

Conclusions

In our experience, a thoracotomy approach for redo mitral valve procedures is safe and feasible, with acceptable CPB and Cross-clamp times and good outcomes. Therefore, it can be an attractive option for patients with previous cardiac surgery, above all for patients with patent grafts. Further studies are needed with a bigger population and a comparison to full sternotomy results.