

# Multi-portal Totally Endoscopic ASD Closure

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LIFE'S ON

## Background

- A novel, minimally invasive approach
- No need for an utility port.
- We evaluate the feasibility, safety, and clinical outcomes of this innovative approach
- Aims to minimize surgical trauma, reduce recovery time, and enhance patient satisfaction.

## Methods

- Prospective study
- 55 patients
- Age 18 to 70 years
- Ostium secundum-type ASD
- January 2021 and June 2024
- Performed using a three-port, fully endoscopic approach under cardiopulmonary bypass

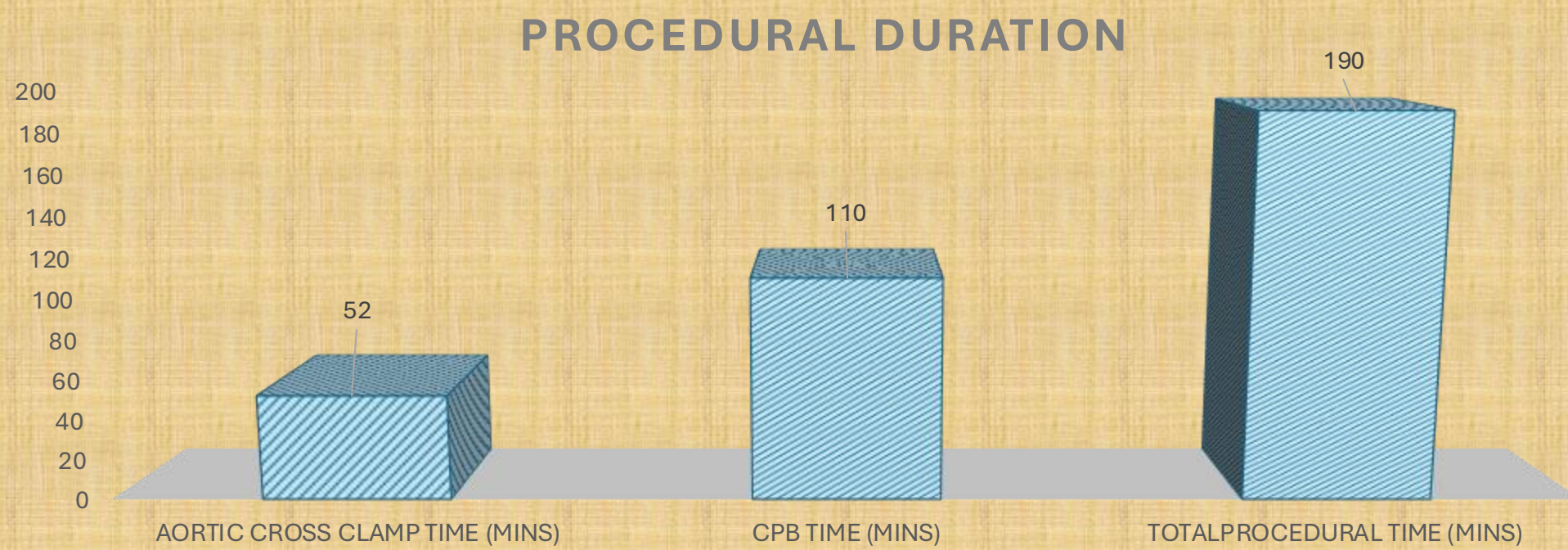
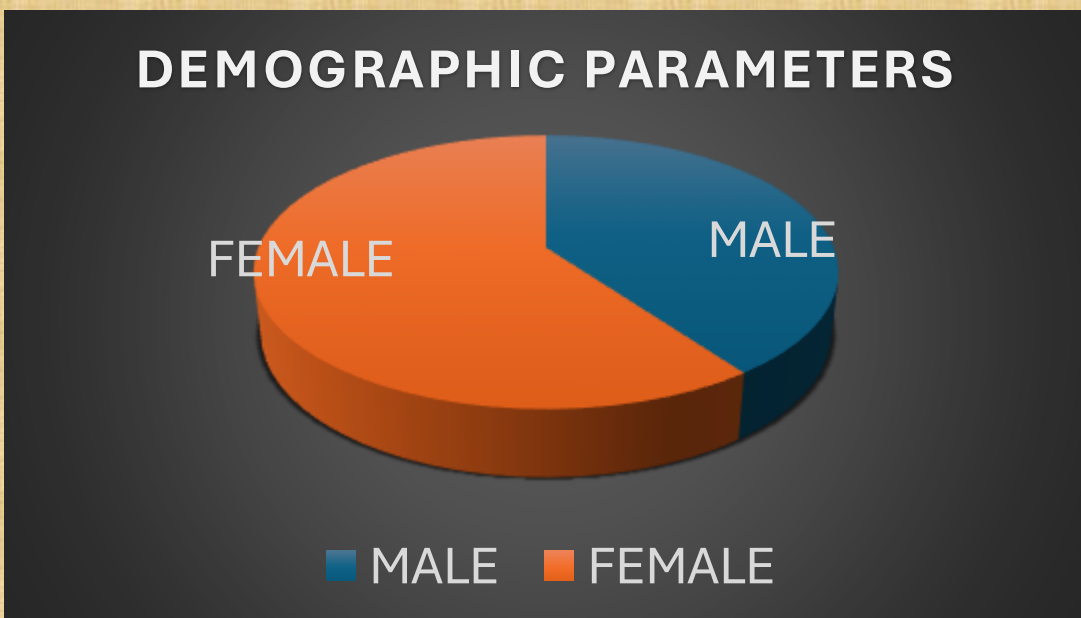
## Data Collected and analysed

- SPSS 26
- Patient demographics
- Procedural details
- Post-operative findings
- Short-term outcomes with follow-ups conducted at 1, 3, 6, and 12 months postoperatively.

## Results

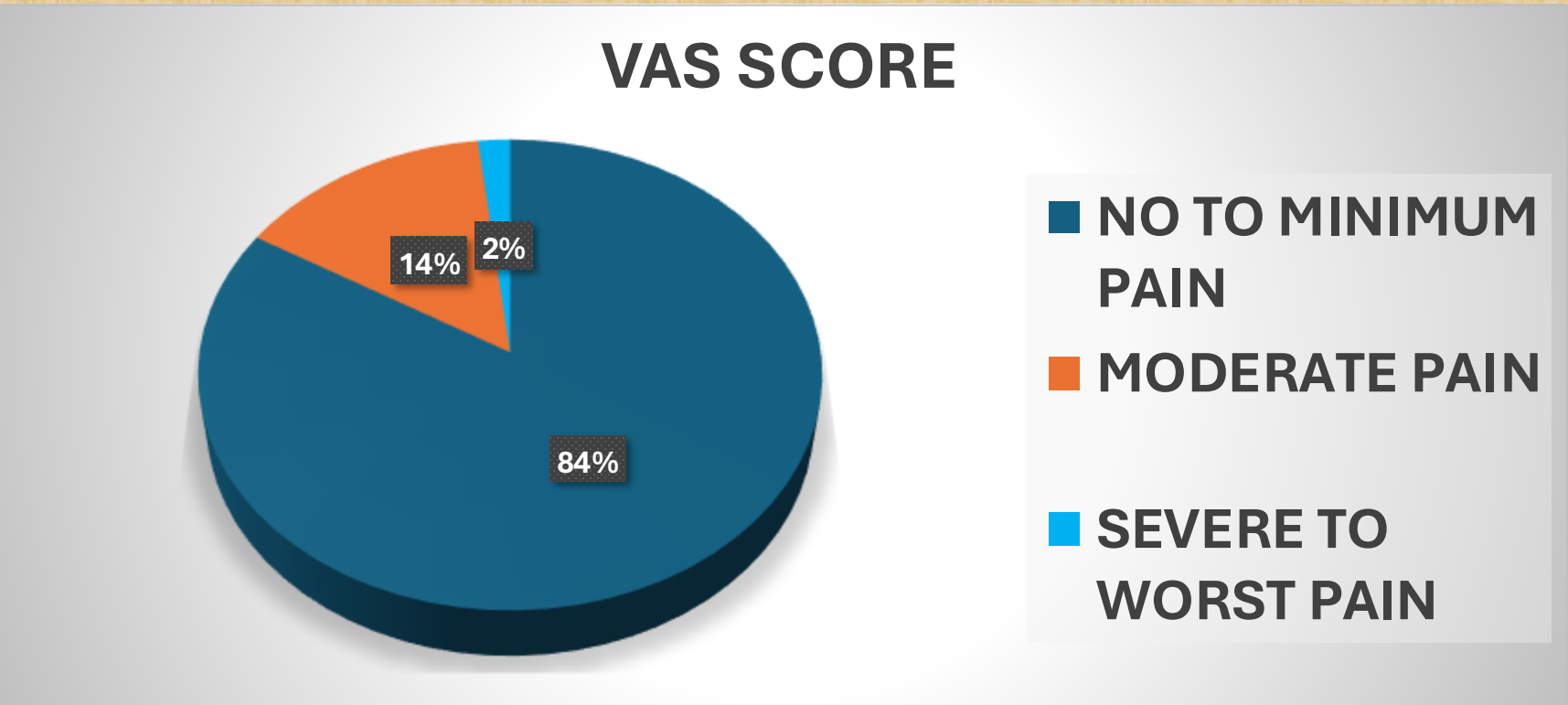
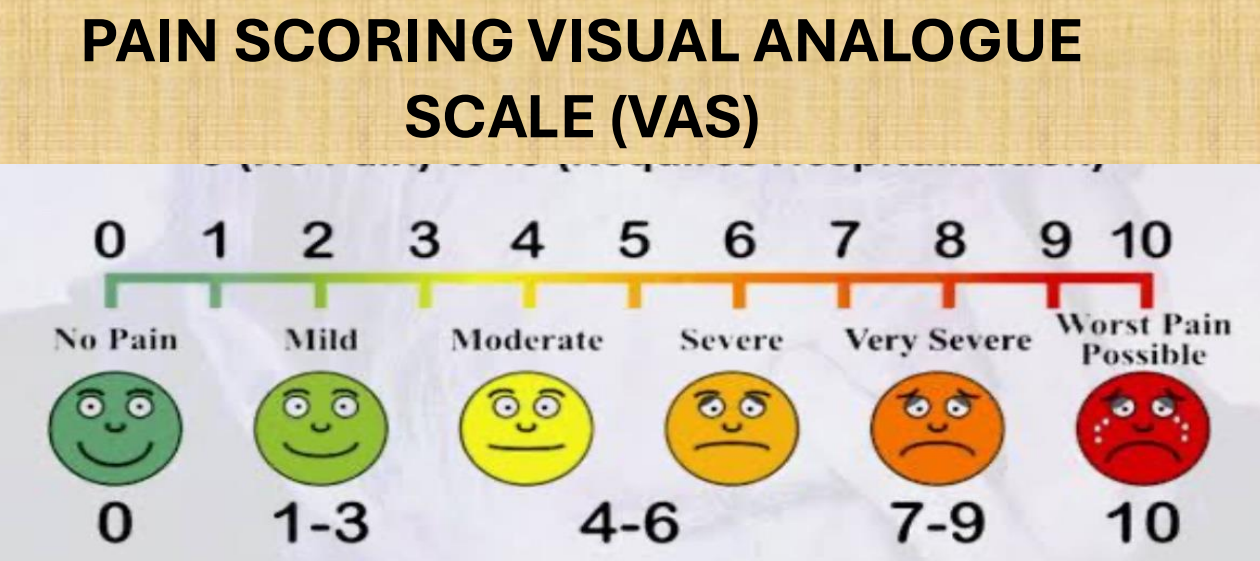
### DEMOGRAPHIC PARAMETERS

|                         |               |      |
|-------------------------|---------------|------|
| Age ( M+/- SD)          | 36.00+/-11.8  |      |
| BMI (Kg /m2) ( M+/- SD) | 21.02+/- 1.77 |      |
| CO-MORBIDITIES          |               |      |
| - HTN                   | 4             | 7.2% |
| - DM (T2)               | 2             | 3.6% |
| - AF                    | 5             | 9.0% |

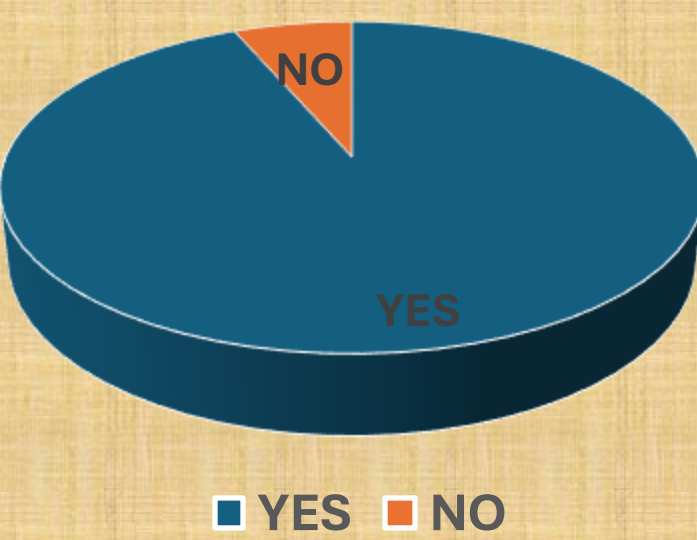


### IMMEDIATE POST-OPERATIVE PARAMETERS

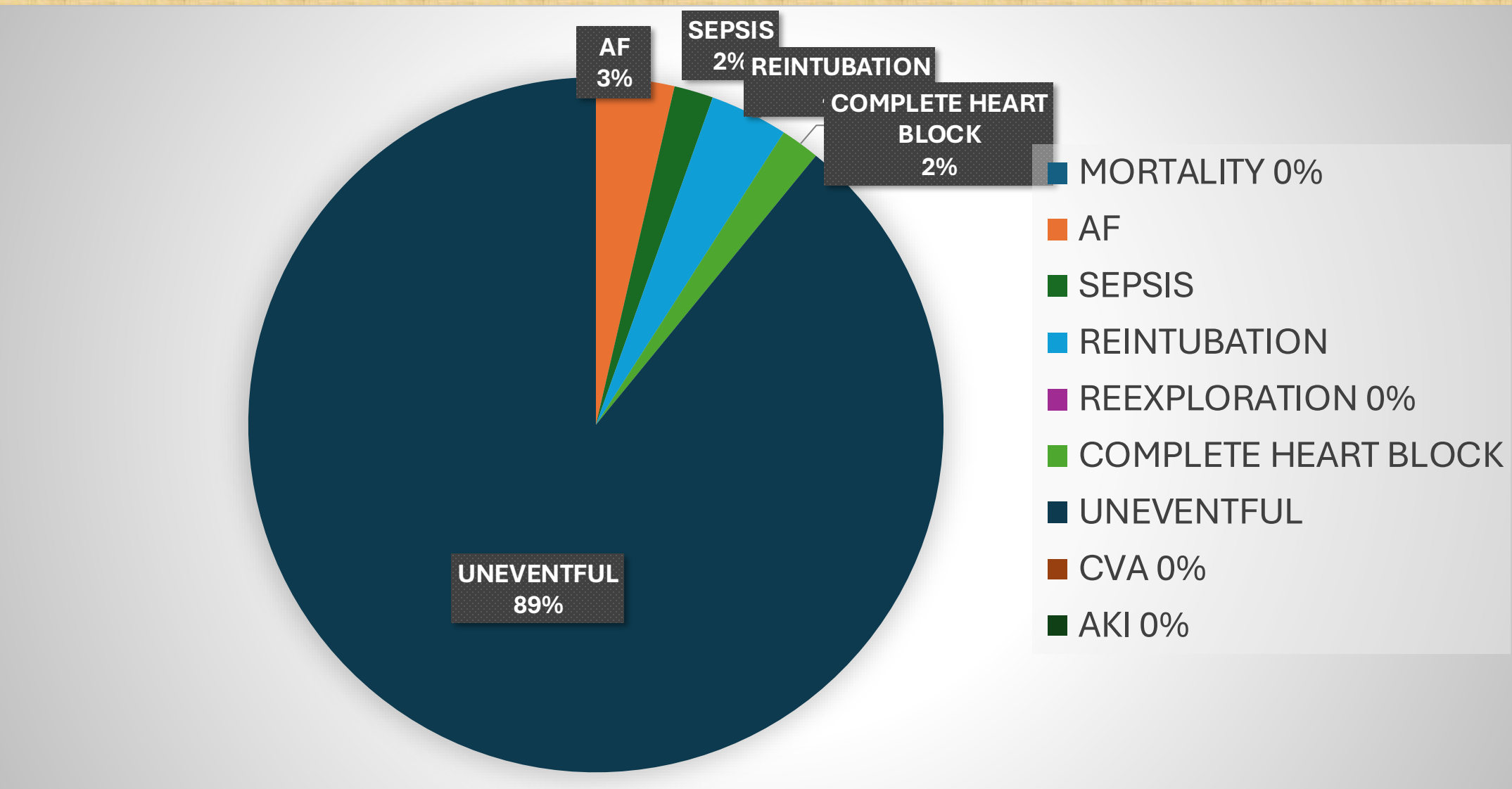
|                                |              |
|--------------------------------|--------------|
| Ventilation Time (Hours)       | 2.67+/- 0.62 |
| Length of ITU Stay (Days)      | 1.21+/-0.51  |
| Length of Hospital Stay (Days) | 2.2+/-0.50   |



### FEELING OF MYSELF



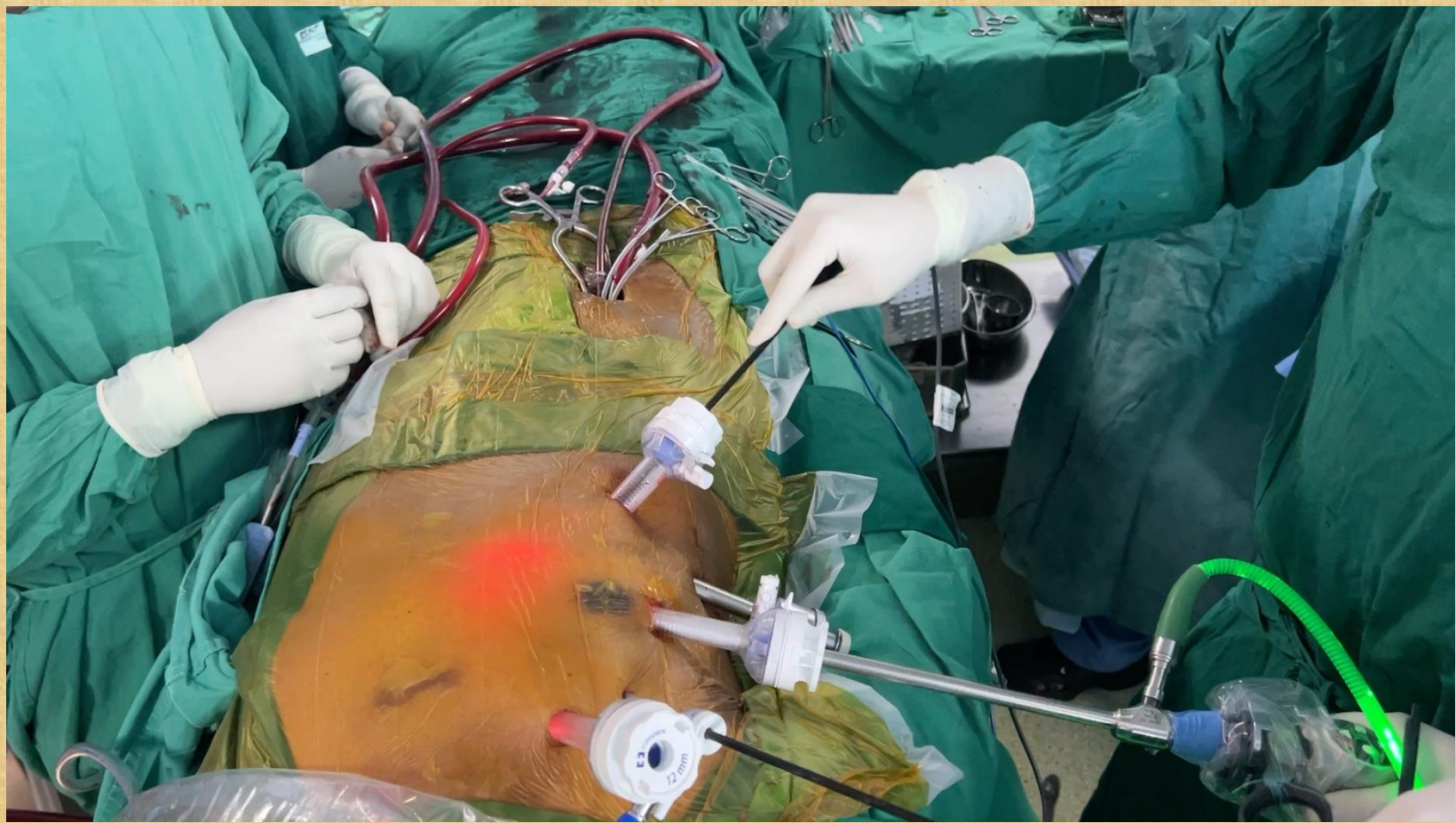
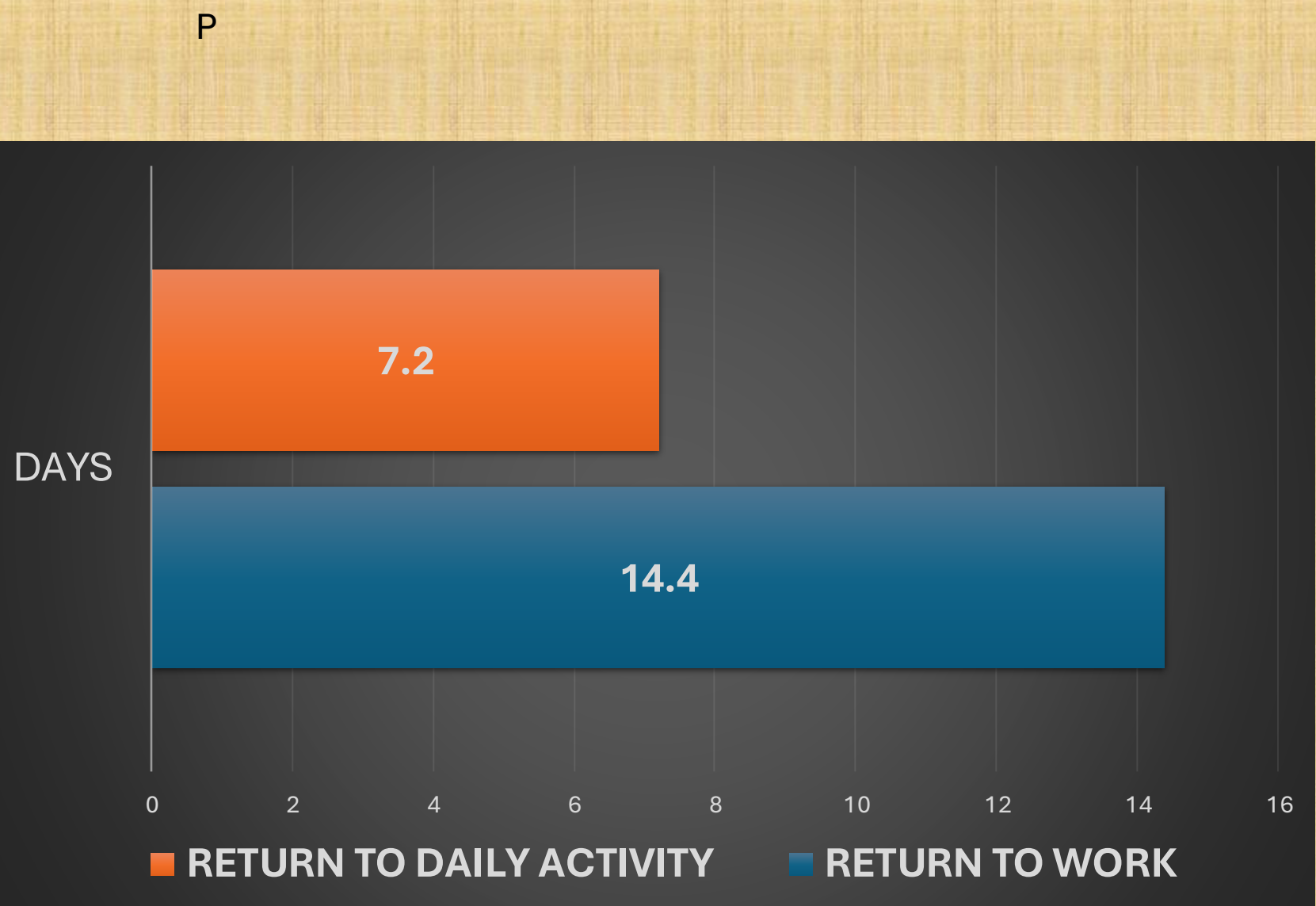
### IMMEDIATE POSTOPERATIVE COMPLICATIONS



### POSTOPERATIVE OUTCOMES

|                                     | 1 WEEK        | 1 MONTH      | 3 MONTHS     | 6 MONTHS     | 12 MONTHS    |
|-------------------------------------|---------------|--------------|--------------|--------------|--------------|
| LVEF                                | 60.05 +/-9.40 | 61.33+/-9.32 | 62.45_/-8.92 | 58.51+/-8.90 | 63.43+/-6.78 |
| Residual Shunts                     | 2%            | NIL          | NIL          | NIL          | NIL          |
| Mortality                           | NIL           | NIL          | NIL          | NIL          | 1.7%         |
| Major Adverse Cardiovascular Events | NIL           | NIL          | 0.9%         | NIL          | 1.1%         |

### ACCEPTABILITY OF COSMESIS



## DISCUSSION

### Feasibility & Safety

- Totally endoscopic ASD closure was successfully completed in all 55 patients without conversion to open surgery.
- Low complication rate (3.6%) with only minor issues (transient arrhythmia, wound infection)

### Efficacy

- Complete closure in 98.2% of cases
- Minor residual shunts (in 2 cases) resolved within 6 months.
- Reflects initial learning curve; expected to reduce with experience

### Recovery & Hospital Stay

- Rapid recovery and early return to daily activities

### Cosmetic & Psychological Benefits

- Minimal scarring due to three-port access.
- High patient satisfaction—especially among young adults and females

- Offers a viable alternative when transcatheter closure is contraindicated

### Limitations

- Short-term follow-up; long-term outcomes still under evaluation.
- Single-center, non-randomized design.

## CONCLUSION

- ✓ Safe
- ✓ Effective
- ✓ Cosmetically superior
- ✓ Associated with rapid recovery and high satisfaction
- ✓ It holds promise as a standard minimally invasive surgical option for ASD closure
- ✓ Further research with larger cohorts and long-term follow-up is essential to establish its role in routine practice

### REFERENCES :

1. Patel SR, Menon A, Kalra GS, et al. Totally Endoscopic Atrial Septal Defect Closure: Early Experience with 40 Patients. *Ann Thorac Surg.* 2022;114(3):785–790.
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5. Chen Y, Zhao L, Zhang D, et al. Feasibility of Totally Endoscopic Intracardiac Repair Using Three-Port Technique Under Cardiopulmonary Bypass. *Eur J Cardiothorac Surg.* 2021;59(6):1185–1191