

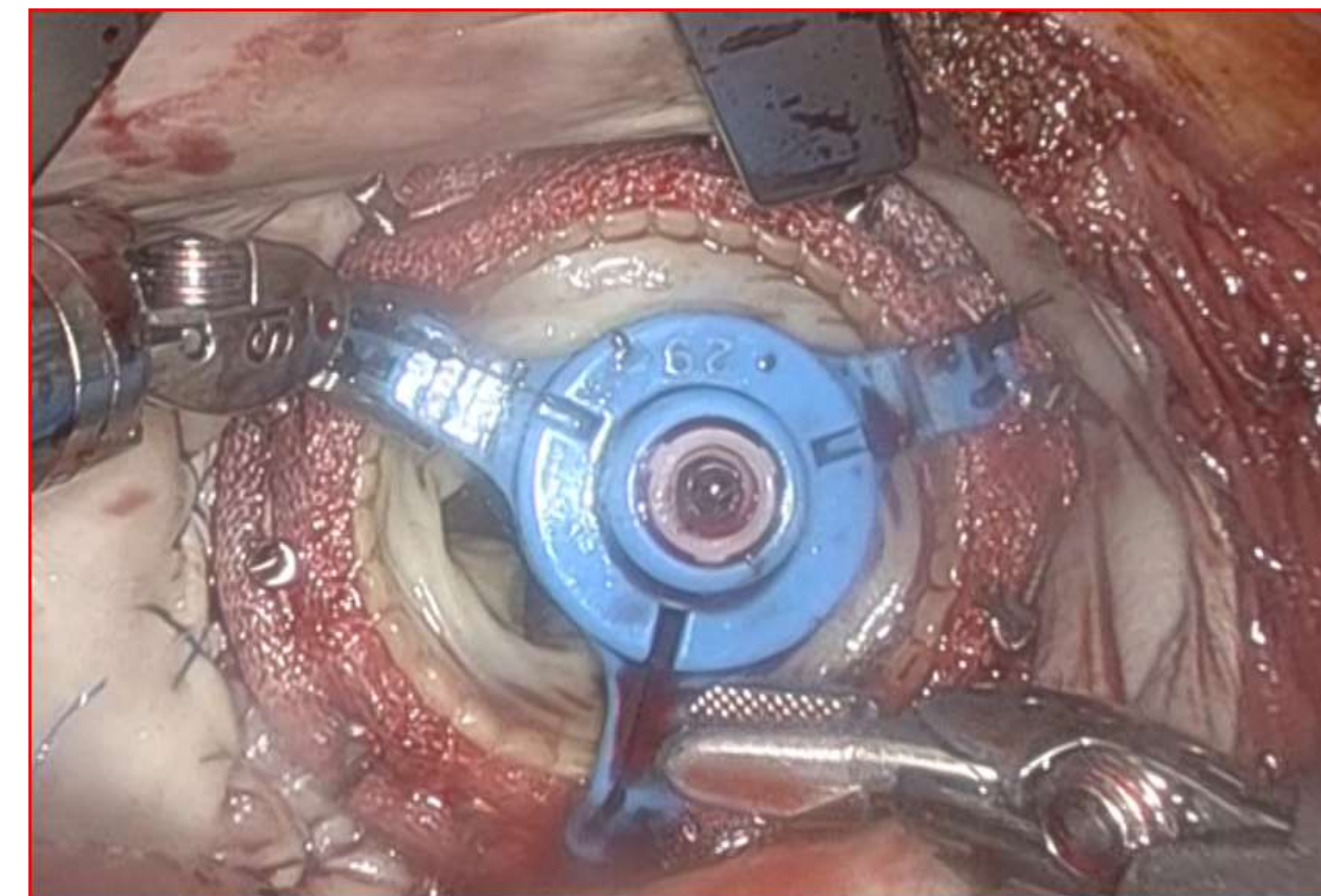
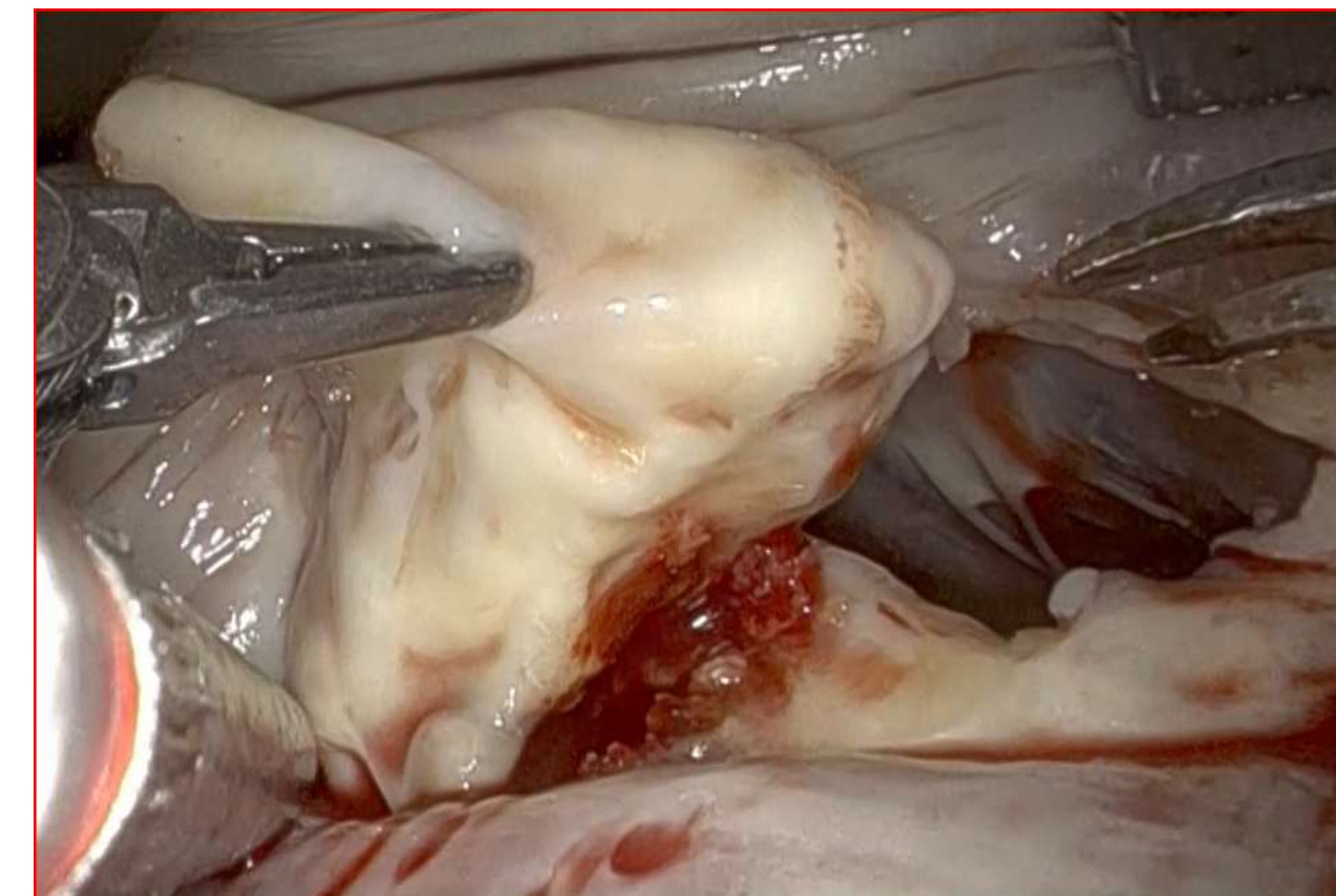
# Robotic Mitral Valve Surgery - A Practical, Reproducible, Day-to-Day Curative Option Beyond Cosmetic Appeal

## Objective:

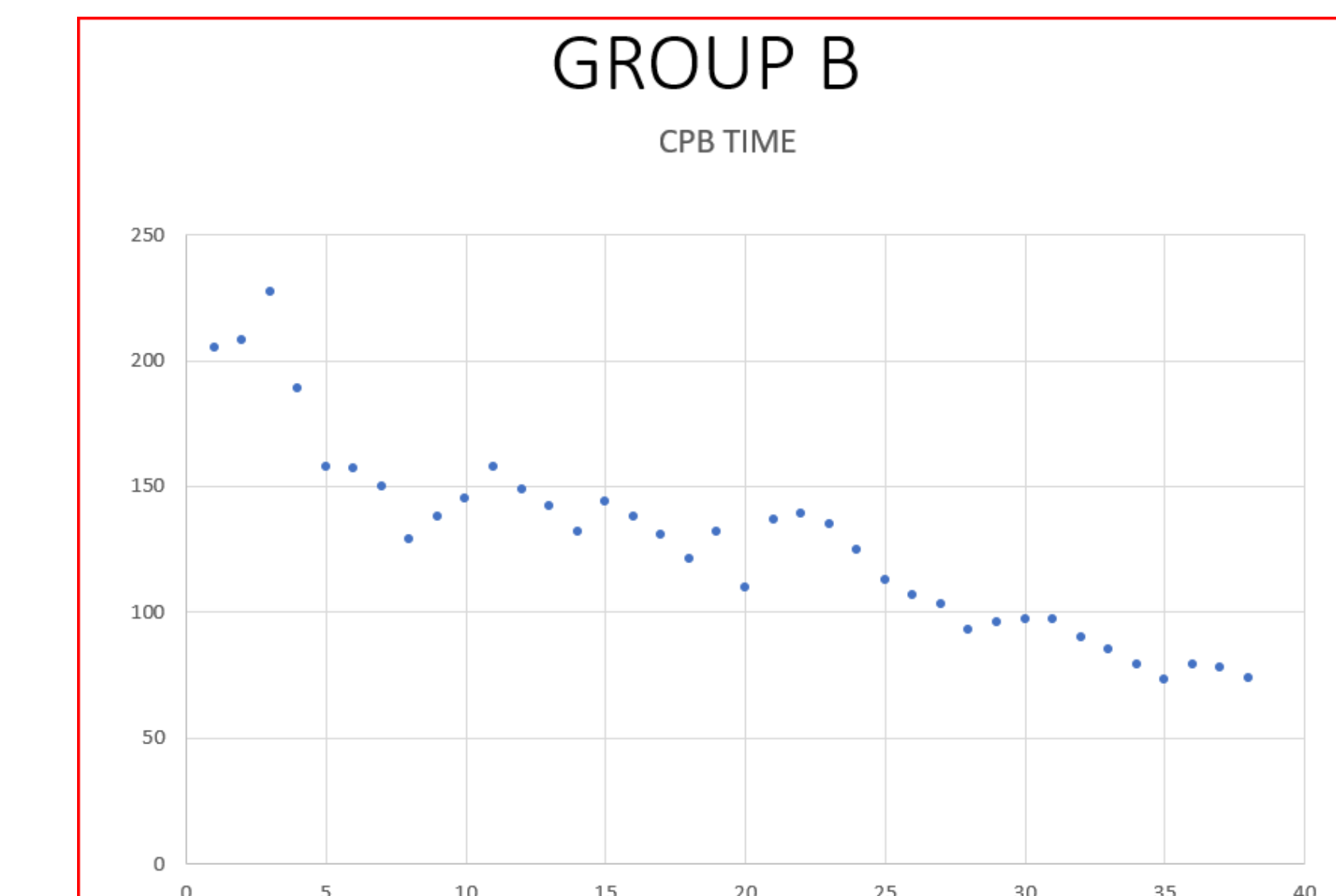
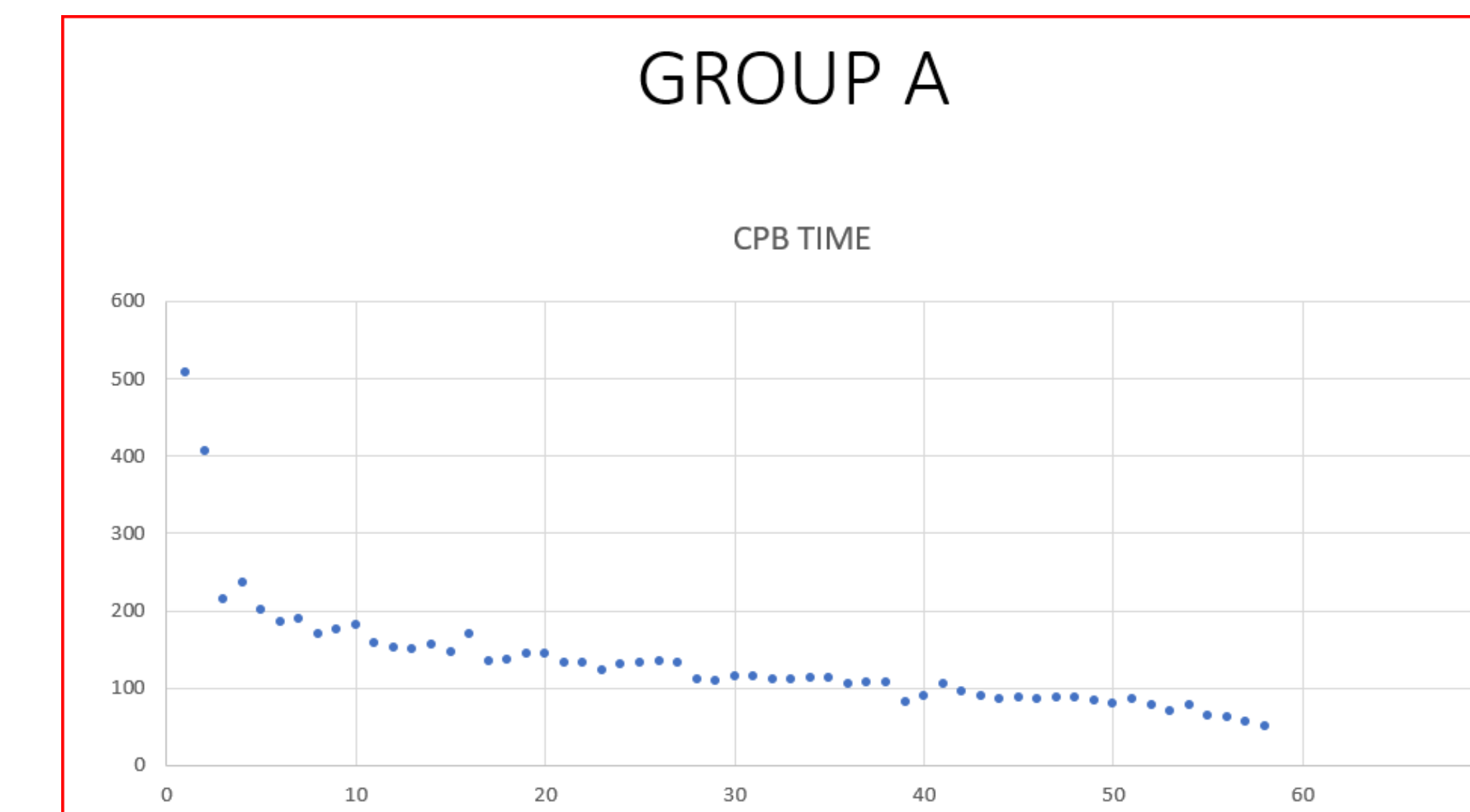
The objective of this study is to highlight the advantages of robotic mitral valve surgery as a practical and effective treatment option. The motto is to establish its possibility as a daily procedure thereby improving patient outcomes, and to highlight its role in day-to-day clinical practise. Beyond its cosmetic appeal, this approach offers benefits like enhanced surgical precision thereby minimising complications, less blood loss, quick recovery and reduced hospital stay.

## Methods:

We retrospectively analysed the data of patients who underwent robotic mitral valve surgery between August 2019 and October 2024. The patient details, echocardiography parameters, perfusion data, blood loss, ventilator support time, ICU stay and mortality were analysed.



**Results:** 58 patients underwent mitral valve replacement (group A) and 38 patients underwent mitral valve repair (group B). Patients who underwent Redo surgeries and other concomitant procedures like tricuspid valve repair and septal myectomy were excluded. The mean CPB time for groups A and B were **133.01±73.91** and **129.97±37.35** and cross clamp times were **86.41±48.34** and **87.78±32.26** minutes respectively. We noticed a decrease in these timings gradually over a period making robotic surgery feasible. The mean drainage for groups A and B were **292.98±199.12** and **324.34±202.05** ml. The mean ICU stays were **37.77±13.93** hours and **33.29±18.81** hours respectively. The mortality rate was **5.17%** in group A (Two patients had RV dysfunction and severe PAH preoperatively and one patient developed SIRS) and **none** in group B. The mean follow-up period was **19.68±15.28** and **19.68±12.12** months respectively. None of the patients needed pacemaker insertion.



**Conclusion:** Robotic mitral valve surgery is a safe, efficacious, and easily reproducible procedure that can be incorporated into day-to-day practise. Its reproducibility and adaptability make it a viable option for routine cardiac care, ensuring consistent results across varied patient profiles. By establishing robotic mitral valve surgery as a practical and reliable technique, this study reinforces its potential to revolutionize the standard of care in mitral valve disease management.