

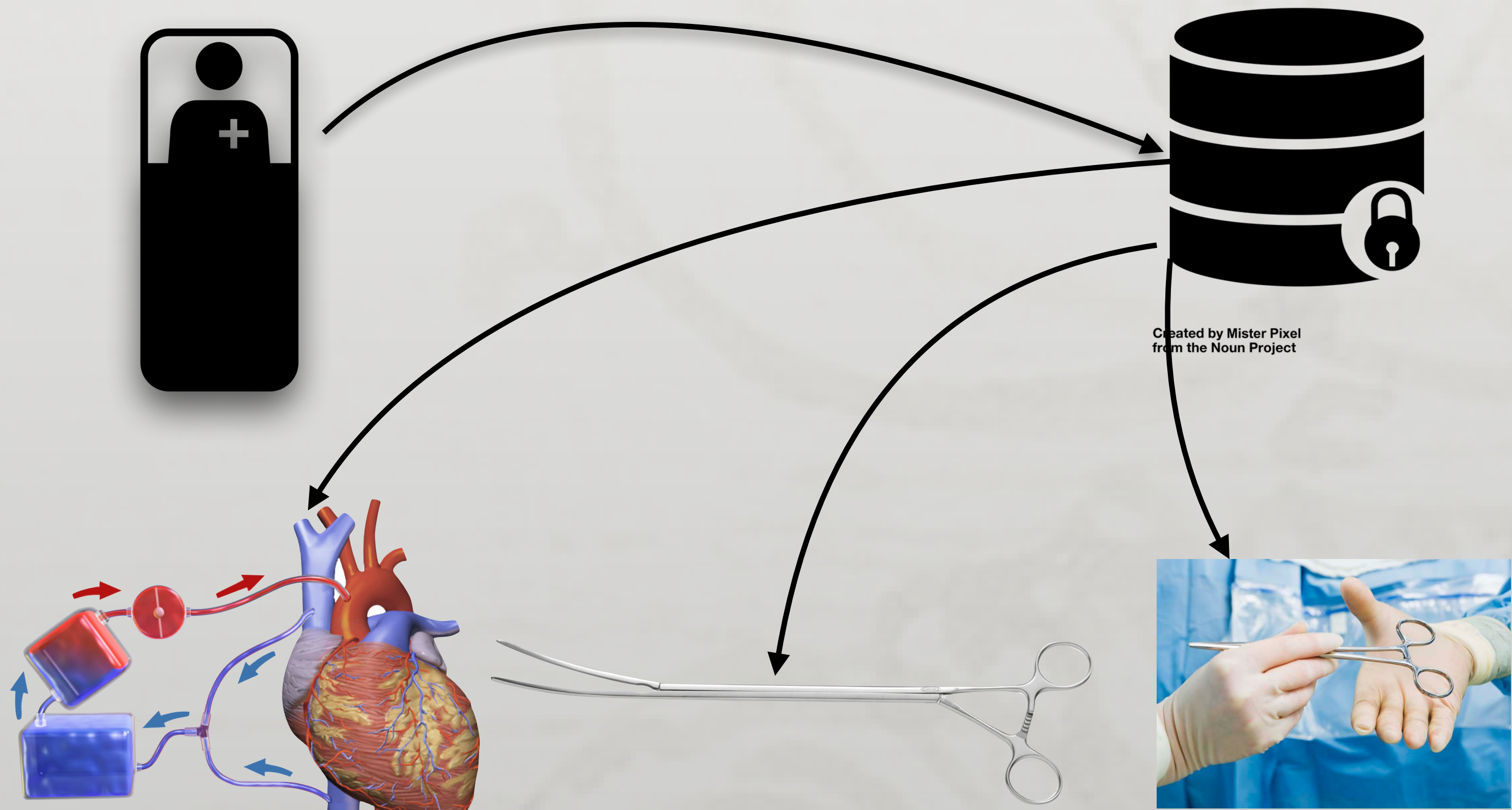


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Introduction

Aim of this study is to summarize our experience for almost 662 endoscopic mitral valve surgery and to select best practice.

Methods



Study design and Participants

From Jul 2015 to December 2023 662 patient underwent totally endoscopic mitral valve surgery. Exclusion criteria was only severe pulmonary adhesions. We have summarized following features: incision site, endoscope position, atrial retractor position and Chitwood's clamp position, and procedural variables include the repair rate, conversion to sternotomy rate, conversion to direct vision thoracotomy rate and redo for bleeding.

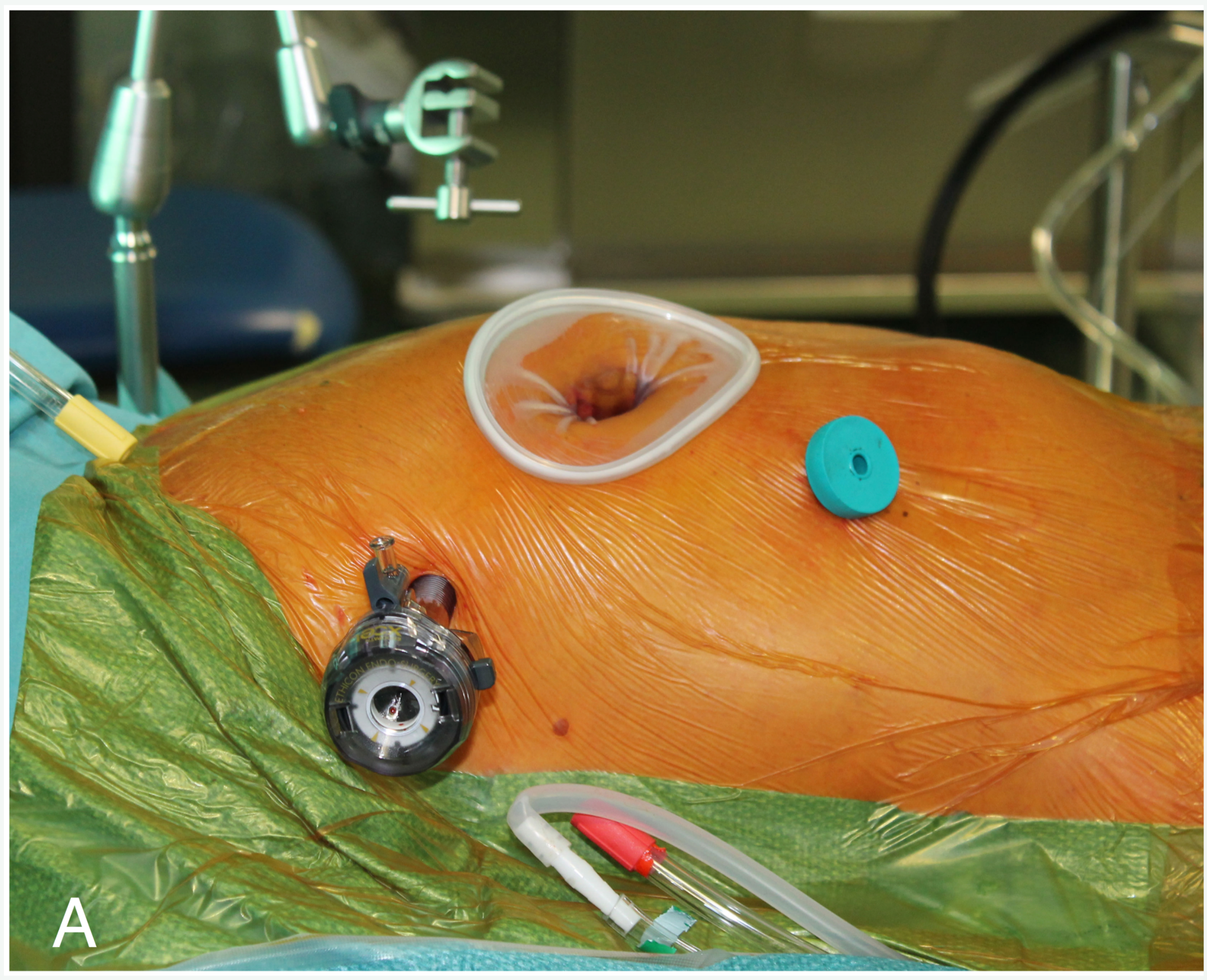
Statistical methods and analysis

Continuers variables were presented as means and standard deviation, categorical variables as proportions. Two sided statistics were performed with a significance level of 0.05. For all analysis R Statistical Computing Environment[3] were used with RStudio (RStudio (2019). RStudio: Integrated development environment for R (Version 1.1) [Computer software]. Boston, MA. Retrieved May 1, 2019. Available from <http://www.rstudio.org/>)

Results

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Incision site was 3rd intercostal space in 54% and 4th in 46% of cases. Endoscope position was in 3rd in 43% and 4th in 56 % of cases. Atrial retractor position 3rd 76% cases, 4th in 23% and in remaining in 2nd costal space. Chitwood's clamp position 99 cases was in 2nd space, remaining in 3rd space. Repair rate was 99% on degenerative disease. Conversion on sternotomy rate was 3.2 %. Conversion to direct vision thoracotomy rate was 0.8%. Redo for bleeding was in 2% of cases. Hospital stay in non complicated cases was under 6 days (75% of the cohort). Hospital mortality was 0.2%.



1. Prepare patient for surgery (all exams)
2. Choose the right intercostal space and correct endoscopic position
3. Obtain good valve exposure and avoid instrument and endoscope conflicts
4. Measure annulus first (or use model beforehand)
5. Complete the valve inspection and identify main and secondary problems
6. Choose the Resect of Respect
7. Use a Prosthetic Annuloplasty in all cases
8. Correct Anatomy to avoid SAM
9. Assess the mitral valve repair intraoperatively and after ventricular function is recovered
10. Do not accept bad repair or postpone the redo: give to a valve second chance

Conclusions

Endoscopic mitral procedure is safe and reproducible procedure. It proves step learning curve, but gain benefits from hight repair rate, early discharge and excellent cosmic result. Conversion, bleeding and mortality was very low.

References

1. Ho TK (1998). "The Random Subspace Method for Constructing Decision Forests" (PDF). IEEE Transactions on Pattern Analysis and Machine Intelligence. 20 (8): 832–844.
2. Janssen KJM, Donders ART, Harrell FE, et al. Missing covariate data in medical research: To impute is better than to ignore. Journal of Clinical Epidemiology. 2010;63(7):721–727. doi:10.1016/j.jclinepi.2009.12.008.
3. R Core Team. R: A Language and Environment for Statistical Computing. Vienna, Austria: R Foundation for Statistical Computing; 2017. <http://www.R-project.org/>.