

FULLY ENDOSCOPIC HIGH DEFINITION 3D MINIMALLY INVASIVE MITRAL VALVE SURGERY. SINGLE CENTRE EXPERIENCE

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BACKGROUND

Minimally invasive mitral valve repair or replacement has become routine for the treatment of mitral valve surgery and indications have been expanded. High definition (HD) 3D minimally invasive mitral valve surgery was introduced in few clinics in the world. HD 3D minimally invasive surgery enables to visualize the valve in details more than in direct vision.

OBJECTIVE

The purpose of this study was to estimate the results of the first experience of HD 3D fully endoscopic minimally invasive mitral valve surgery in Russian Federation.

METHODS

Our Cardiac Center has a great experience in minimally invasive mitral valve surgery. We were the first clinics who have got "3D Einstein Vision System" for performing cardiac surgery. Between December 2018 and August 2019 we have performed 25 mitral valve surgeries. Complete peripheral cardiopulmonary bypass was used in all cases. Minimally invasive 4 cm incision was made in 4th intercostals space for implanting mitral valve ring or valve. Camera was introduced in 3d intercostals space. The surgeon was operating on the mitral valve fully endoscopically with 3D glasses. 25 patients underwent mitral valve surgery. In 18 cases mitral valve repair was performed (6 cases with neochordae implantation to anterior leaflet of mitral valve, 7 cases with plication of posterior leaflet and 5 cases with isolated annuloplasty of mitralvalve). Mitral valve replacement was made in 7 cases with mitral valve stenosis.

RESULTS

The absence of mortality was registered in all patients. The average hospital stay in patients who underwent mitral valve repair was $7,6 \pm 1,2$ days and the average hospital stay in patients who underwent mitral valve replacement was $9,4 \pm 0,5$ days. In one case pneumothorax have happened.

CONCLUSION

The right anterolateral minithoracotomy in the fourth intercostal space is currently the most commonly applied approach. In experienced hands, the minimally invasive approach has shown excellent results with regard to operative complications and the durability of surgical MVRepair. Furthermore, today MVRepair is the gold standard for treatment of significant MR with results of high patient satisfaction, short hospital stay, low perioperative morbidity and mortality rates and excellent long-term outcomes.