CLINICAL OUTCOMES OF ROBOTIC MITRAL VALVE REPAIR: A SINGLE-CENTER EXPERIENCE IN SOUTH KOREA, UPDATED VERSION

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Background: Since the inception of robotic mitral valve repair (MV) in 2007 at author's institution, it has become an acceptable surgical option with proven efficacy and safety. The objective of this study is to analyze the early and long-term clinical outcomes of patients undergoing robotic MV repair.

Methods: A total of 450 patients (aged 49.8±13.6 years, 295 females) undergoing robotic MV repair using the da Vinci system (Intuitive Surgical Inc., Sunnyvale CA) between August 2007 and September 2018 in our institution were evaluated. The preoperative demographics, operative profiles and postoperative outcomes including follow-up echocardiographic results were analyzed.

Results: Successful MV repair was achieved in 98.2% (n=442) of patients, with no significant residual mitral regurgitation (MR) postoperatively. There were no early postoperative deaths. Early postoperative complications included: stroke (n=5, 1.1%), new onset dialysis (n=1, 0.2%) and reoperation (n=3, 0.7%). During a median follow-up of 46.9 months (inter-quartile range 21.6 to 701.6 months), 8 patients died, while 5 patients underwent late reoperations. Major event-free survival at 5 years was 85.3% (0.81-0.90). Late echocardiographic profiles (>6 months) were obtained in 407 (90.4%) patients. During follow-up, 55 patients developed significant mitral regurgitation (MR > grade 2), while freedom from significant MR at 5 years was 84.0% (0.80-0.89).

Conclusions: Robotic MV repair is a safe procedure with acceptable postoperative results, including low early postoperative morbidity and mortality and acceptable long-term repair durability.

BIOGRAPHY

Jae Won Lee studied and graduated at the Seoul National University college of Medicine, South Korea. He was trained at the Seoul National University Hospital and received his PhD degree at the same institution. He also received clinical fellowship training at the Toronto General Hospital supervised by Dr. Tirone E David. He has published more than 180 research articles in SCI (E) journals.

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