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Gheorghe Cerin

San Gaudenzio Clinic, Italy

Perioperative echocardiography in degenerative mitral insufficiency

n degenerative mitral insufficiency (DMI), compared to valve replacement, the mitral valve repair (MVR) is the operation of choice, in term of better survival and freedom from any cardiac events. Despite these data, MVR rate -generally among 60-70%, remains suboptimal, for different reasons. Primarily, the need of a perfect echo assessment of each prolapsing scallop and of the mechanism of MI, second, the challenging anatomy in case of prolapse of both leaflets, and third, the difficulties to work through small incisions. Our team developed a specific algorithm in order to reach 99% of MVR through a right minithoracotomy (R-miniT). First, by an unambiguous assessment of each prolapsing scallop, calculating for each patient a prolapsing score at intraoperative transesophageal echo, performed by an expert cardiologist. Particular attention was also payed to the mechanism of MI and to the MV geometry, defined by the triangle of coaptation. Second, by use of a simplified surgical technique: through a R-miniT, in the third intercostal space, a percutaneous single femoral venous and direct aortic cannulation was performed, followed by a direct aortic cross clamping, with antegrade Custodiol cardioplegia. Usually, a triangular resection for posterior leaflet and PTFE artificial chordae for the anterior leaflet was performed. In all cases a complete prosthetic ring was implanted. From September 2010, to September 2017, via R-miniT, we have operated on 296 patients with severe DMI (age 56.3+12.0y). In-hospital mortality was 0.7%. At discharge 96% of pts had no or trivial MI, 4% mild. The success rate of repair was 100% with 2% of pts needing a second pump run. The mean aortic cross clamping was 72+17min, the mean length of coaptation was 9+1.96mm and all patients have had a restored triangle of coaptation. At FUP (90% of pts, mean 5.6+2years), late mortality was 2.6%, with cardiac related death 0.8%. Non-patients were in NYHA Class 3 or 4. Reoperation for residual MR was performed in 1.8%. Cardiac related rehospitalisation was necessary in 2.3%. Permanent AFib was present in 3% of pts and 30% of pts had no medical therapy. Oral anticoagulation was present in 11% of pts. Our results demonstrate a 100% success and feasibility of mitral repair on right minithoracotomy, with low in-hospital and late cardiac mortality. A team approach between the cardiac surgeon and cardiologist is mandatory for high likelihood and successful repair.

Biography

Gheorgin Cerin, Fellow of European Society of Cardiology and Head of the Cardiology and Internal Medicine Grouping, Cardiac Surgery Dpt, San Gaudenzio Clinic, 'Policlinico di Monza' Hospital Group, Italy. Senior Consultant Cardiologist at the Cardiovascular Center, Monza Hospital, Bucharest, Romania. President of the Association of Romanian Doctors in Italy. He has an outstanding experience in clinical cardiology and internal medicine, daily connected in the last 25 years to perioperative management of the patients candidate to open heart surgery. He has Vast experience in the field of echocardiography as tool in perioperative assessment and management of patients candidates to cardiac surgery: more than 35 years of experience in echocardiography – the last 25 years as echocardiographer in cardiac surgery. Specific expertise in mitral valve diseases and generally in echocardiography for valves repair surgery. He is the Lecturer and chairman in various international meetings in cardiology, cardiac surgery and echocardiography. Since 1994 he has been working as a tutor and organizer of training programs in cardiology and cardiac surgery and echocardiography either in Italy or Romania, Moldavian, Georgian and Polish doctors. Since 2010 he is the promotor of the live streaming sessions in cardiac surgery and echocardiography either in Italy or Romania, as tool and novel modality of tele-learning programs in cardiology and echocardiography (more than 40 live sessions from the operating room to the congress halls abroad in Europe as Austria, Spain, Romania, Moldavia, Turkey, Georgia, Poland). He has been granted by Diploma and gold medal the Romanian Scientists Academy (Oct 2007) for "outstanding contributions in the collaboration with Romania in the field of Cardiology, Cardiovascular Surgery and training young specialists".