CRT-718

Percutaneous Mitral Balloon Valvotomy. Echocardiographic Score ≤ 8 and > 8, Assessment of Risk Factors for Death and Major Events in Long-Term Follow-up

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Introduction: Percutaneous mitral balloon valvotomy (PMBV) has emerged as an alternative to surgical treatment of mitral stenosis.

Objective: To identify the independents predictors of death and combined events (death, new mitral balloon valvotomy, or mitral valve surgery) in long-term follow-up of patients undergoing PMBV.

Methods: From 1987 to 2011 a total of 312 patients were followed-up 54.0±31.0 (1 to 126) months. The techniques were the single-balloon (84.4%), Inoue-balloon (13.8%), and double-balloon techniques (1.7%). The total group was divided in two: echocardiographic score >8 and ≤ 8 points groups. Multivariate Cox regression analysis was performed to identify independent risk factors of long-term survival and event free survival.

Results: The mean age was 38.0±12.6 years old (range, 13 to 83). Before the procedure, 84,42% patients had echo score ≤ 8, and 15.57% score> 8. Females comprised 85%, and 84% patients were in sinus rhythm. During follow-up, survival of the total group was 95.5%, echo score group ≤ 8 was 98.0% and echo score > 8 was 82.2% (p<0.0001), whereas combined event-free survival was 83.4%, 86.1%, and 68.9%, respectively (p<0.0001). In multivariate analysis, independent risk factors of death were pre procedure echo score > 8 and the presence of severe mitral valve regurgitation during the procedure. The predictors of combined events were a previous history of mitral valvular commissurotomy, atrial fibrillation, the presence of severe mitral valve regurgitation during the procedure and post procedure mitral valve area < 1.5 m^2.

Conclusion: PMBV is an effective procedure. Survival was high, even higher in the group with lower echocardiographic scores. Over 2/3 of the patients were event-free at the end of follow-up. Independents predictors of survival were pre procedure echo score ≤ 8 and the absence of severe mitral valve regurgitation during the procedure.

CRT-719

Long-Term Follow-Up of Mitral Valvuloplasty with Single Balloon, Independent Predictors of Survival and Event Free Survival

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Background: Mitral balloon valvuloplasty (MBV) with single balloon (MBVSB) is the less expensive technique to perform MBV. The objectives were to evaluate long-term follow-up (FU) of MBVSB Balt and to determine independent predictors of survival and event-free survival.

Methods: From 1987 to 12-31-2012, 526 procedures of mitral balloon valvuloplasty was performed, 404 (76.8%) with MBVSB Balt, being 256 procedures with long-term FU. The balloon diameter was 25 mm in 5 procedures and 30 mm in 251, mean dilatation area 7.02±0.30 cm^2. The FU was 55±33 (1 to 198) months. To determine independent predictors of survival and event-free survival it was used the multivariate Cox analysis.

Results: Mean age was 38.0±12.6 (13 to 83) years, being 222 (86.7%) female, 215 (84.0%) in sinus rhythm, echo score (ES) 7.2±1.5 (4 to 14) points and echo mitral valve area (MVA) pre-MBVSB 0.93±0.21 cm^2. Mean pre and post-mitral balloon valvuloplasty area (Gorlin) was 0.90±0.20 and 2.02±0.37 cm^2 (p<0.001) and success MVA ≥1,5 cm^2 in 241 (94.1%) procedures and mean pulmonary artery pressure pre and post MBV were 27±10 and 20±7 mmHg . Three (1.2%) patients began the FU with severe mitral regurgitation. At the end of the FU 118 (46.1%) patients were in NYHA FC I, 71 (27.7%) in FC II, 53 (20.7%) in FC III, 3 (1.2%) in FC IV and there were 11 deaths (4.3%), 9 (3,5%) were cardiac death, being 5 during cardiac surgery.

There were 17 (8.2%) patients with new severe mitral regurgitation at the end of the FU. Twelve (4.7%) patients were submitted to new mitral balloon valvuloplasty, 27 (10.5%) to mitral valve surgery and 70 (26.3%) patients used no medication at the end of the FU. Independent predictors of survival with 7 variables were: ES ≤8 (P<0.002, HR=0.143), age ≤50 years old (P=0.014, HR 0.202 and absence of mitral valve surgery in the FU (P=0.004, HR 0.170), being cardiac surgery in fhe FU the 7th variable and with 6 variables independent predictors were: EE ≤8 (p<0.001, HR 0,116) and age ≤50 years old (P=0,011, HR=0,203). Independent predictors of event-free survival were: absence of prior comissurotomy (P<0.002, HR 0.318), female (P=0.036, HR 0.466) and MVA post mitral balloon valvuloplasty ≥1.50 cm^2, P<0.001, HR 0.466) in multivariate Cox analysis.

Conclusion: MBVSB Balt was efficient with durable results similar to other techniques. Independent predictors of survival were: ES ≤8, age ≤50 years old and absence of mitral valve surgery in the FU. Independent predictors of event-free survival were: absence of prior comissurotomy, female gender and MVA post mitral balloon valvuloplasty ≥1.50 cm^2.

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Mitral Balloon Valvuloplasty Long-Term Follow-Up of Single Balloon Versus Inoue Balloon Techniques. Independent Predictors of Survival and Event Free Survival

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Background: The single balloon (SB) that is the less expensive technique to perform mitral balloon (MBV) valvuloplasty. This study aimed to demonstrate that MBV with SB Balt has similar outcome and long-term follow-up (FU) than MBV performed with the Inoue worldwide accepted technique.

Methods: From 1987 to 12/31/2012 a total of 526 procedures were performed, being 312 procedures with a FU, 56 (17.9%) with Inoue balloon (IB), the IB group (IBG) and 256 (82.1%) SB Balt group (SBG). The mean FU in IBG was 33±27 (2 to 118) and in SBG 55±33 (1 to 198) months (P<0.0001). Univariate analysis and multivariate Cox analysis were utilized to determine independent predict variables of survival and event free survival (EFS) in both technique groups and major events were (death, cardiac surgery and new MBV).

Results: In IBG and SBG there were: female 42 (75.0%) and 222 (86.7%) procedures, (P=0.0276), mean age 37.3±10.0 (19 to 63) and 38.0±12.6 (13 to 83) years (P=0.7138), sinus rhythm 51 (91.1%) and 215 (84.0%), (P=0.1754), echo score (ES) 7.6±1.3 (5 to 10) and 7.2±1.5 (4 to 14) points (P=0.0528), echo mitral valve area (MVA) pre-MBV 0.96±0.18 and 0.93±0.21 cm^2 (P=0,2265). Post-MBV mean MVA (Gorlin) were 2.00±0.52 and 2.02±0.37 cm^2 (P=0.9550) and at the end of the FU there were: echo MVA 1.71±0.41 and 1.54±0.51 cm^2 (P=0.0552), new severe mitral regurgitation in 5 (8.9%) and 17 (6.6%) patients (P=0.5633), new MBV in 1 (1.8%) and 13 (5,1%), (P=0.4779), mitral valve surgery in 3 (5.4%) and 27 (10.4%), (P=0.3456), deaths 2 (3.6%) and 11 (4.3%) deaths, (P=1.000), being cardiac deaths 1 (1.8%) and 9 (3.5%), (p=1.0000), major events 5 (8.9%) and 46 (18.0%), (P=0.1449). In univariate analysis and multivariate Cox analysis the SB or IB technique used do not predict survival or EFS and independent risk factors to survival (multivariate Cox analysis with 2 models with 5 and 6 variables) were: age <50 years (P=0.016, HR=0.233, 95% IC 0.071-0.764), ES ≤8 (P<0.001, HR=0.105, 95% IC 0.34-0.327), MBV dilatation area (P<0.001, HR 16.838, 95% IC 3.353-84.580) and mitral valve surgery in the FU (P=0.001, HR=0.152, 95% IC 0.050-0.459) and to EFS: prior commissurotomy (P=0.012, HR=0.390, 95% IC 0.187-0.813) and post-MBV MVA ≥1.50 cm^2 (P<0.001, HR=7.969, 95% IC 3.413-18.608).

Conclusion: MBV with SB and IB were equally efficient with similar survival and EFS in the FU. Independent predictors of survival were: age <50 years, ES ≤8 points, MBV dilatation area and mitral valve surgery in the FU and of event EFS: prior commissurotomy and post-MBV MVA ≥1.50 cm^2.