



Heart Failure and Cardiomyopathies

PR-PROLONGATION AND LONG-TERM OUTCOME IN PATIENTS WITH CONGESTIVE HEART FAILURE TREATED WITH CARDIAC RESYNCHRONIZATION THERAPY

Poster Contributions

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Background: Left bundle branch block (LBBB) and QRS width are commonly used predictors of cardiac resynchronization therapy (CRT) response and outcome. Recent data indicate that PR-prolongation is associated with increased risk for mortality in general population. The purpose of the study was to analyze the relationship between PR-prolongation and long-term outcome in patients with congestive heart failure (CHF) treated with CRT.

Methods: 85 CRT patients (mean age 55.1±9.9 years, 81.2% men) with CHF (53% ischemic and 47% non-ischemic etiology) II-IV NYHA functional class, left ventricular ejection fraction (LVEF) 35%, QRS >120 ms were enrolled. Criteria for LBBB were: QRS duration 130 ms in women or 140 ms in men, rS or QS morphology in lead V1, mid QRS notching/slurring in at least two of the leads V1, V2, V5, V6, I, aVL (by Strauss criteria). Mean follow-up period was 25.3±17.0 months. Patients were stratified according to PR width: I group - normal PR (<200 ms; n=52) and II group - prolonged PR (≥200 ms; n=33), and then this two groups were stratified by QRS width (≥150 ms or <150ms) and presence of LBBB (LBBB+ or LBBB-).

Results: At baseline groups did not differ in main clinical characteristics, QRS width and presence of LBBB were matched between groups. The survival rates were 59.6% in I group and 18.2% in II group (Log-rank test p<0.001). When I and II groups were divided by presence of LBBB survival did not differ between groups with or without LBBB. When groups were stratified by QRS width ≥150 ms or <150 ms low survival level was observed among patients with PR ≥200 ms irrespectively of QRS width (21.4% vs 15.8%, respectively; Log-rank test p=0.698). But in patients with PR<200 ms and QRS ≥150 ms survival was significantly higher than in patients with PR<200 ms and QRS <150 ms (72.7% vs 36.8%; Log-rank test p=0.031).

Conclusion: In patients with CHF and LVEF 35% treated with CRT PR prolongation ≥200 ms is significantly associated with high risk of mortality in long-term period irrespectively of LBBB and QRS width. In patients with PR<200ms QRS ≥150 ms can be used as additional predictor of better survival, but not LBBB.