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Improved NYHA class and KCCQ-12 after septal myectomy in patients with obstructive hypertrophic cardiomyopathy

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Keywords

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Abstract

Introduction:

Patients with obstructive hypertrophic cardiomyopathy (oHCM) frequently present with heart failure symptoms refractory to medical therapy and require septal myectomy (SM). The magnitude of benefit from SM is thought to be better than the recently reported data from EXPLORER-HCM and REDWOOD-HCM trials. We prospectively investigated the association between SM, patient-reported 12-item Kansas City Cardiomyopathy Questionnaire (KCCQ-12) and physician-reported NYHA class in a community-based cohort of oHCM.

Hypothesis:

SM \pm submitral valve repair is associated with improvement in NYHA class and KCCQ-12 but with a varying magnitude of benefit.

Methods:

We conducted a prospective cohort study of 108 patients with oHCM who underwent SM (48% women, age 59 (45, 67) years). KCCQ-12 and NYHA class were assessed prospectively prior to SM, at 1-3 months post-SM and at 4-12 months post-SM. KCCQ-12 is reported as an additive score. Data are reported as median values (IQR).

Results:

Pre-SM, LVEF was 70% (65, 75) while resting and Valsalva LVOT gradients were 42 (22, 90) and 87 (53, 119) mm Hg, respectively. Post-SM, median LVEF was 65% (60, 69) with respective resting and Valsalva LVOT gradients of 11 (8, 16) and 16 (11, 28) mm Hg (all $p < 0.001$). NYHA Classes \geq III decreased in prevalence from 71% to 13% to 3% after SM ($p < 0.001$). Pre-SM, KCCQ-12 was 39 (31, 48), which improved to 51 (41, 57) at 1-3 months post-SM and 58 (52, 63) at 4-12 months post-SM ($p < 0.001$). Changes in NYHA Class distribution and KCCQ-12 scoring after SM are shown in Figure 1.

Conclusion:

SM was associated with significant improvement in KCCQ-12 and NYHA class in a community-based cohort of oHCM. The inability to conduct blinded NYHA class and KCCQ-12 assessment post-SM is a major limitation given EXPLORER-HCM showed 31% placebo effect on NYHA class. Further contemporary comparative studies of SM and cardiac myosin inhibitors are needed.