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Nebivolol compared with metoprolol for erectile function in males undergoing coronary artery bypass graft

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Objective: The aim of this study was to evaluate the effects of two widely used adrenoceptor beta-blockers, namely nebivolol and metoprolol on erectile function in males undergoing coronary artery bypass grafting.

Methods: Sixty patients scheduled for coronary artery bypass grafting surgery were randomly assigned into two groups: the N group, which received 5 mg of nebivolol orally for 2 weeks before surgery plus 12 weeks after surgery or the M group, which received 50 mg of metoprolol orally for the same period. All patients were evaluated by the erectile function domain of the International Index of Erectile Function-5 (IIEF-5) at time of admission (before starting beta blocker) and three months after surgery.

Results: In the metoprolol group, the mean IIEF-5 score decreased significantly from a baseline of 15.2 ± 5.8 to 12.9 ± 5.8 ($p < 0.001$), but in the nebivolol group this difference was not statistically significant (from baseline 12.9 ± 5.5 to 12.4 ± 5.5 and $p = 0.053$). For all patients the mean IIEF-5 score decreased significantly from a baseline of 14.0 ± 5.7 to 12.6 ± 5.6 ($p < 0.001$).

Conclusion: While the selective β_1 -blocker metoprolol significantly affects erectile function, the vasodilating selective β_1 -blocker nebivolol exerts protective effects on erectile function against the disruptive effects of cardiopulmonary bypass in patients undergoing coronary artery bypass grafting.

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