

Transcatheter edge-to-edge repair in mitral and tricuspid regurgitation: a review of results at University Hospital Centre Zagreb

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Introduction: Transcatheter edge-to-edge repair (TEER) is a minimally invasive procedure aimed at treating patients with mitral or tricuspid regurgitation who are at high surgical risk. This technique allows access to the valves without open-heart surgery. A catheter, inserted through an intravenous line, guides a clip device (e.g. MitraClip or TriClip) to the affected valve, where it grasps the leaflets and pulls them together to reduce the regurgitation orifice^{1,2}.

Methods and Results: We analyzed 34 patients with mitral regurgitation treated with MitraClip. Among them, 14.7% (n=5) required two clips. The average follow-up was 18 ± 16 months, with a mortality rate of 14.7% (n=5), occurring on average 17 months post-procedure. Hospitalization for heart failure was necessary in 8.8% (n=3) of patients after a successful procedure, and re-intervention was required in 5.9% (n=2). We observed a significant reduction in NT-proBNP levels, declining from an average of 7516 pg/mL before the intervention to 1595 pg/mL afterward. The average daily dose of furosemide was significantly reduced from 150 mg to 88 mg. Importantly, NYHA functional status improved, reflecting better symptom management and enhanced functional capacity (**Figure 1**). Concerning tricuspid regurgitation, 12 patients underwent treatment with TriClip, with two clips required in 66.7% (n=8) of cases. The average follow-up period was 6 ± 4 months, with no mortality. Hospitalization for heart failure occurred in 25% (n=3). Post-procedure follow-up indicated notable improvement in NYHA status (**Figure 2**).

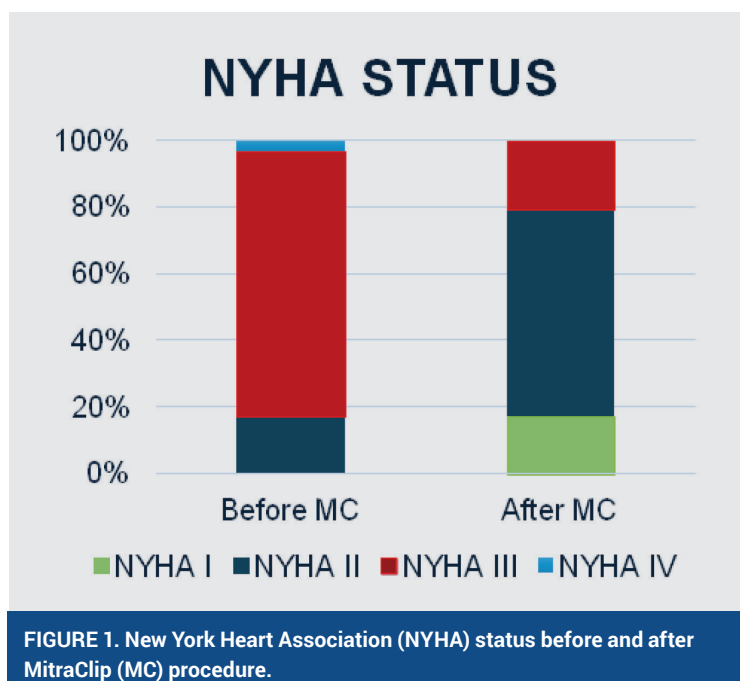
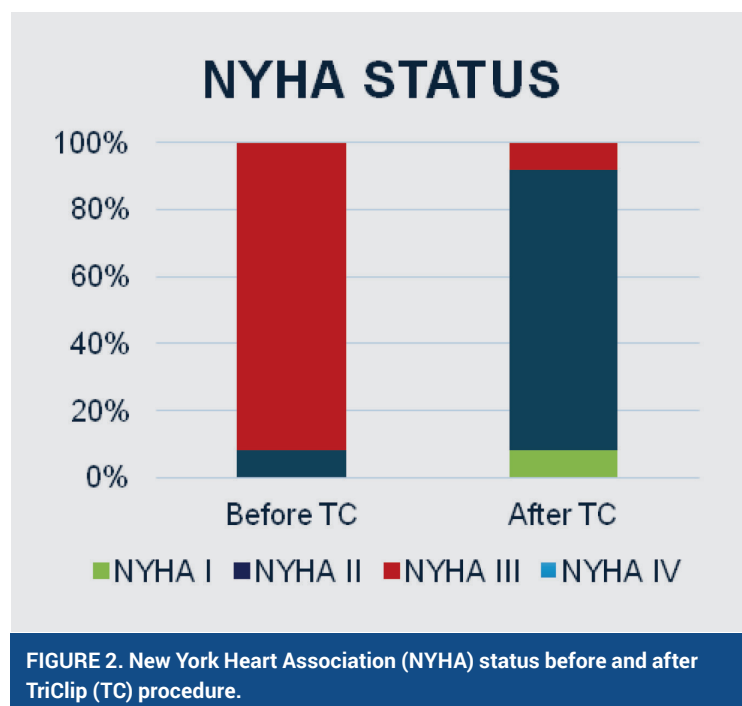


FIGURE 1. New York Heart Association (NYHA) status before and after MitraClip (MC) procedure.

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Conclusion: Both MitraClip and TriClip procedures significantly enhance the functional status of patients with mitral and tricuspid regurgitation. MitraClip treatment resulted in reductions in NT-proBNP levels and diuretic requirements. While some patients required re-intervention or hospitalization, overall mortality remained consistent with expectations. These findings demonstrate the effectiveness of TEER in improving quality of life and managing heart failure symptoms.

LITERATURE

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