



Letter to the Editor

MitraClip system as bridge to left ventricular assist device in selected patients with advanced heart failure

Caroline M. Van De Heyning^a, Enrico Ammirati^{b,*}

^a Department of Cardiology, Antwerp University Hospital, Edegem, Belgium

^b De Gasperis Cardio Center, Niguarda Hospital, Milan, Italy



ARTICLE INFO

Article history:

Received 24 April 2019

Accepted 30 April 2019

Available online 14 June 2019

Keywords:

Left ventricular assist device

MitraClip

Functional mitral regurgitation

Heart failure

We thank Dr. Imamura for his interest in our recent paper, which reported on the outcome of patients with functional mitral regurgitation (FMR) who were previously treated with MitraClip and who received a continuous-flow left ventricular assist device (LVAD) [1].

Our case series comprised patients who needed LVAD implantation due to progression of their underlying cardiomyopathy, despite previous successful MitraClip therapy (residual moderate FMR in all patients). As such, our data cannot be used to evaluate the safety of MitraClip therapy to treat residual FMR in patients on LVAD support, but rather suggest that MitraClip can be performed without unfavourable impact on future LVAD-therapy.

We agree that patient selection is crucial. More insights are provided by the COAPT trial [2], that showed that MitraClip can prevent, or at least postpone LVAD therapy. Importantly, patients with a left ventricular ejection fraction (LVEF) < 20% or end-systolic dimension > 70 mm were

excluded. In contrast, the Mitra-FR study included FMR patients with more remodelled left ventricles and failed to show improved outcome in the device group [3], which raises the question whether MitraClip is beneficial in this subgroup. Median LVEF was 22% in our series; suggesting that some patients might have been better candidates for immediate LVAD therapy.

Secondly, the hypothesis that stabilisation of hemodynamics with MitraClip might improve post-LVAD outcome in patients with advanced heart failure and FMR, cannot be proven or refuted by limited and/or biased studies.

Finally, before deciding whether MitraClip or immediate LVAD therapy is indicated, the Heart Team should always verify whether patients are optimally medically treated, also considering the association of a neprilysin inhibitor [4].

Disclosures

None.

References

- [1] E. Ammirati, C.M. Van De Heyning, F. Musca, et al., Safety of centrifugal left ventricular assist device in patients previously treated with MitraClip system, *Int. J. Cardiol.* 283 (2019) 131–133.
- [2] G.W. Stone, J. Lindenfeld, W.T. Abraham, et al., Transcatheter mitral-valve repair in patients with heart failure, *N. Engl. J. Med.* 379 (2018) 2307–2318.
- [3] J.F. Obadia, D. Messika-Zeitoun, G. Leurent, et al., Percutaneous repair or medical treatment for secondary mitral regurgitation, *N. Engl. J. Med.* 379 (2018) 2297–2306.
- [4] D.H. Kang, S.J. Park, S.H. Shin, et al., Angiotensin receptor Neprilysin inhibitor for functional mitral regurgitation, *Circulation* 139 (2019) 1354–1365.

* Corresponding author at: Niguarda Hospital, Piazza Ospedale Maggiore 3, 20162 Milan, Italy.

E-mail address: enrico.ammirati@ospedaleniguarda.it (E. Ammirati).

¹ The authors take responsibility for all aspects of the reliability and freedom from bias of the data presented and their discussed interpretation.