

IMAGES IN INTERVENTION

## Needing a Helping Hand

### Left Amplatz Catheter to Facilitate Anterior Leaflet Grasping in the MitraClip Procedure

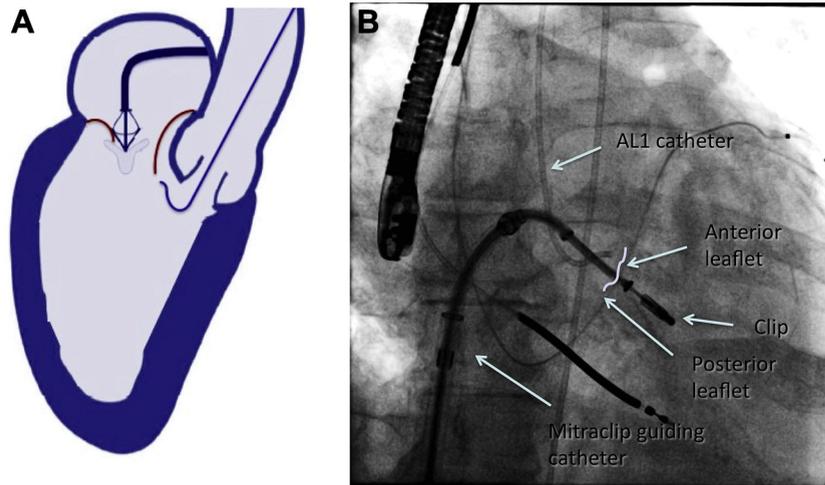


Fausto Castriota, MD, Roberto Nerla, MD, Angelo Squeri, MD, Antonio Micari, MD, PhD, Mauro Del Giglio, MD, Alberto Cremonesi, MD

**A** 53-year-old man with primitive dilated cardiomyopathy and severe left ventricular dysfunction awaiting cardiac transplantation was referred to our hospital to undergo a MitraClip (Abbott Vascular, Menlo Park, California) procedure as a bridge therapy for his functional mitral regurgitation (MR).

After transseptal puncture (8:44 AM), the MitraClip device was easily moved to the central position. Unfortunately, due to asymmetrical leaflet tethering, grasping was particularly challenging. A number of strategies was tried to facilitate approaching the leaflets, including adenosine-induced asystole, ventilation maneuvers, the Trendelenburg position,

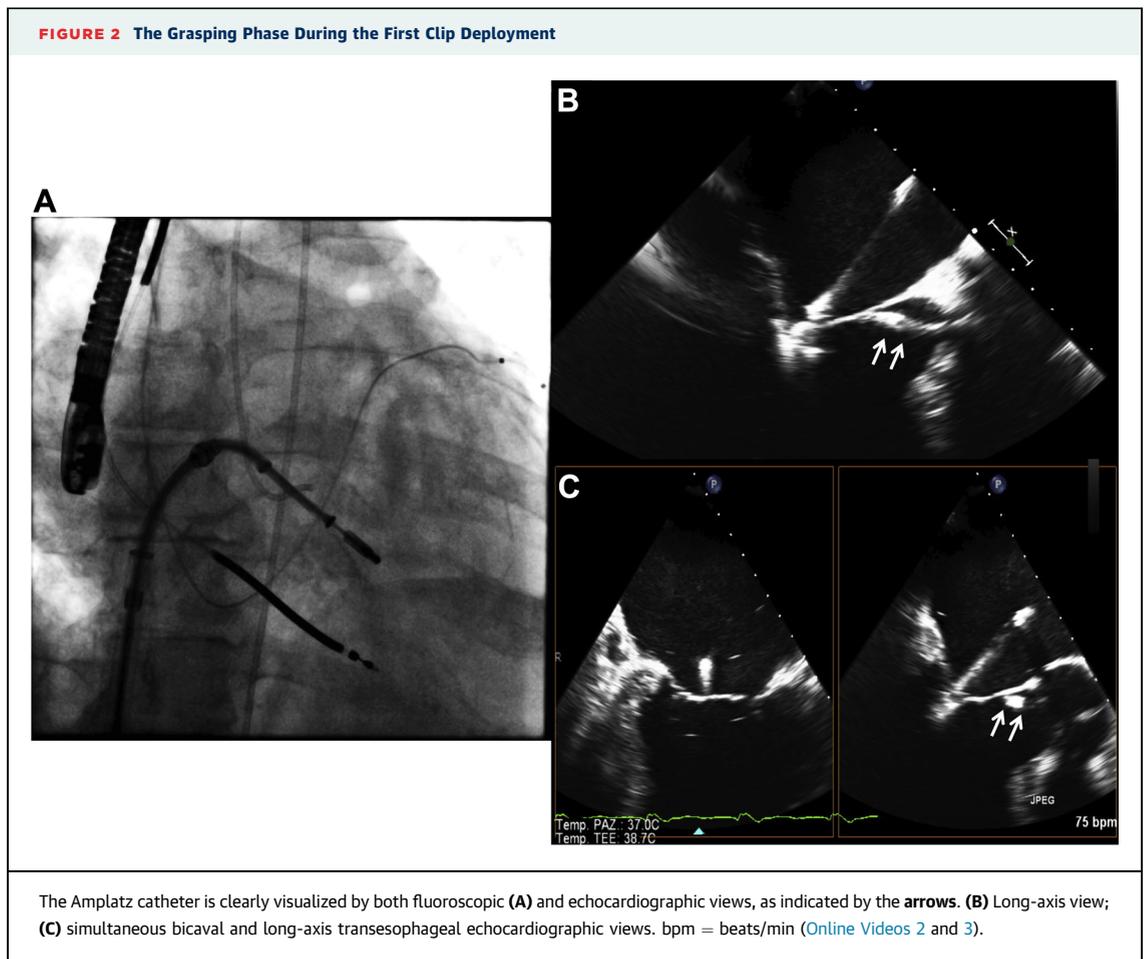
**FIGURE 1** Plan of the Strategy to Facilitate Anterior Leaflet Grasping



A left Amplatz catheter was advanced from the femoral artery beyond the aortic valve (**A**) to push the anterior mitral leaflet during the grasping phase (**B**) ([Online Video 1](#)).

From the Interventional Cardiology Unit, GVM Maria Cecilia Hospital, Cotignola, Italy. The authors have reported that they have no relationships relevant to the contents of this paper to disclose.

Manuscript received December 21, 2015; revised manuscript received January 12, 2016, accepted January 29, 2016.



and ventricular fibrillation induction. Because none of these strategies was effective due to asymmetrical tethering of anterior leaflet (Figure 1, Online Video 1), a left Amplatz catheter (Boston Scientific, Marlborough, Massachusetts) was advanced from the femoral artery (11:21 AM) beyond the aortic valve (Figure 1), and, under fluoroscopic and echocardiographic guidance, it was positioned in such a way that the tip pushed the anterior leaflet toward the grasping system (Figure 2, Online Video 2). At this point, both leaflets could be simultaneously grasped, and the MitraClip was positioned (12:03 PM). A second MitraClip was then placed (12:29 PM), with a residual mild MR with 2 small jets beside the implanted clips (Figure 2, Online Video 3).

MitraClips are increasingly used for functional MR as a bridge therapy to cardiac transplantation (1). However, the unpredictable and often challenging ventricular remodeling of patients with advanced

heart failure could significantly increase procedural complexity. In particular, the grasping process is often facilitated by a number of tricks to reduce leaflet mobility (2,3), including the use of a pigtail catheter to help grasp posterior leaflets (4).

However, this is the first case showing how a left Amplatz catheter could facilitate the grasping process of the anterior leaflet during a MitraClip procedure. Although technically more difficult, given the tighter angle between the anterior leaflet and the aortic root, this opportunity should be taken into account, even in the earlier phases of more complex grasping processes (i.e., for asymmetrical tethering).

**REPRINT REQUESTS AND CORRESPONDENCE:** Dr. Roberto Nerla, Cardiovascular Unit GVM Care and Research, Maria Cecilia Hospital, Via Corriera 1, 48033 Cotignola (RA), Italy. E-mail: robertonerla83@gmail.com.

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**KEY WORDS** asymmetrical tethering, challenging grasping, left Amplatz catheter, MitraClip

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 **APPENDIX** For supplemental videos, please see the online version of this article.