

IMAGES IN INTERVENTION

# Safety of MitraClip Implant in the Unstable Patient



## Feasibility of Concomitant Left Ventricular Support Device

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A 90-year-old man with heart failure secondary to severe P2 prolapse and severe mitral regurgitation (MR) was deemed at prohibitive risk for surgical repair and placement of a MitraClip (Abbott Vascular, Santa Clara, California) planned. Shortly after induction of anesthesia, he became profoundly hypotensive refractory to vasopressors, requiring cardiopulmonary resuscitation and ultimately emergent delivery of an Impella CP (Abiomed, Danvers, Massachusetts). This stabilized his blood pressure, and we then proceeded with the procedure. There was a wide MR jet along the P2

segment, and we opted to clip in the middle, which bisected the jet (Figure 1). The mean mitral gradient was 2 mm Hg, and the valve orifice appeared adequate; thus, we proceeded with a second clip placed medial to the first along the P2. This resolved the medial jet, and there was just a residual lateral jet. Given the degree of afterload reduction with the Impella, we assumed that any residual MR would be much worse once the Impella weaned, and therefore we placed a third clip laterally after confirming a 3-mm Hg mitral gradient. The third clip was placed just lateral to the first, mitigating essentially all of

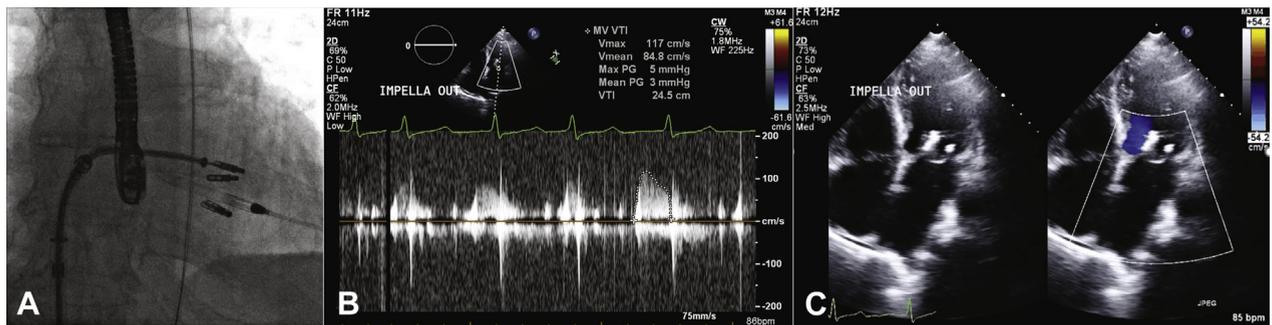
FIGURE 1 Baseline Impella Images



Baseline transesophageal echocardiographic images of severe posterior mitral leaflet prolapse and regurgitation with the Impella in place (A) and fluoroscopy of the first clip open in the left ventricle with the Impella in place (B).

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Manuscript received December 15, 2015; revised manuscript received December 21, 2015, accepted December 28, 2015.

**FIGURE 2** Final Images

Fluoroscopic images demonstrating the 3 deployed clips and the Impella (A), low mean gradient (B), and final transthoracic echocardiographic comparison demonstrating no significant mitral regurgitation once extubated and the Impella was out (C).

the MR, and the pressors and Impella were weaned. We stopped the anesthesia and extubated on the table with the Impella still in place. The blood pressure was pulsatile, and pressors weaned nearly off, so we explanted the Impella. He had complete hemodynamic recovery and was discharged on postoperative day 2 with essentially no residual MR (Figure 2). To our knowledge, this is the first reported case of an Impella in place during MitraClip implantation and

may prove a useful combination for the treatment of MR and cardiogenic shock.

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**KEY WORDS** Impella, MitraClip, mitral regurgitation