

Image in cardiology

MitraClip implantation in a severely tortuous inferior vena cava

Implante de MitraClip en vena cava inferior muy tortuosa

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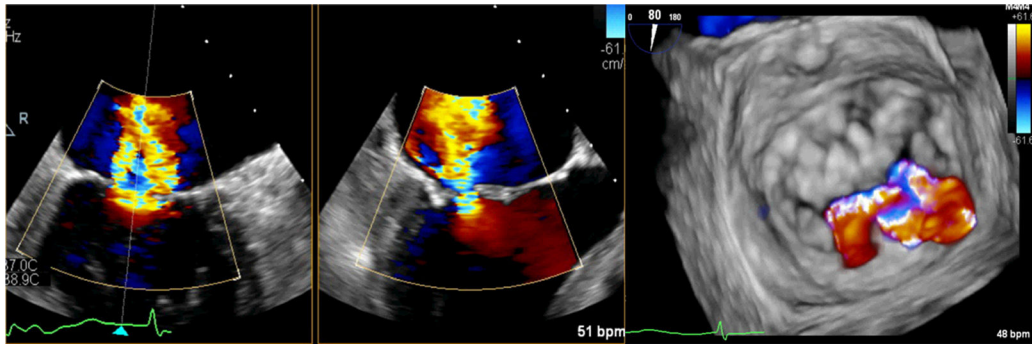


Figure 1.

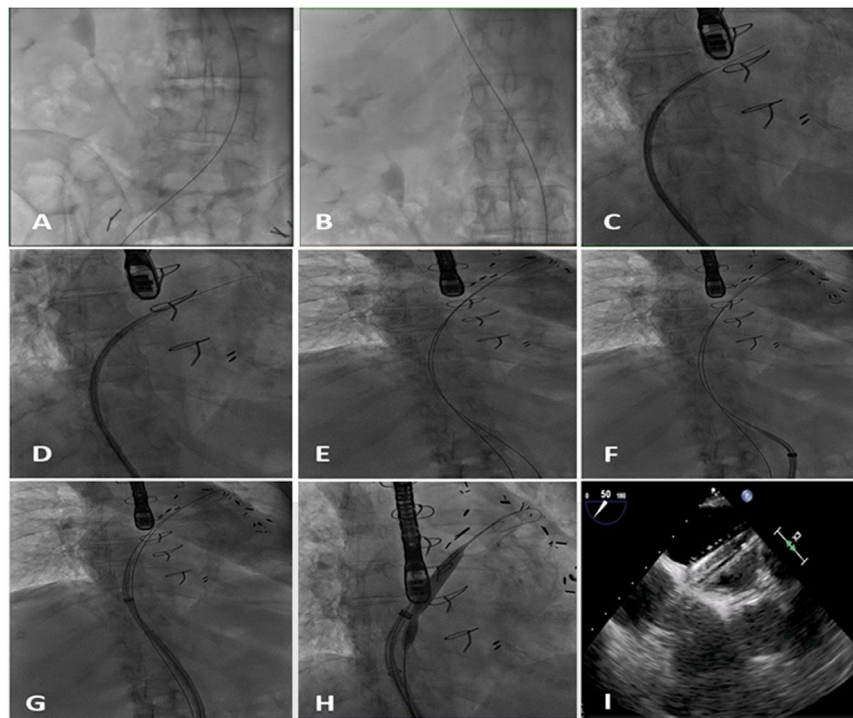


Figure 2.

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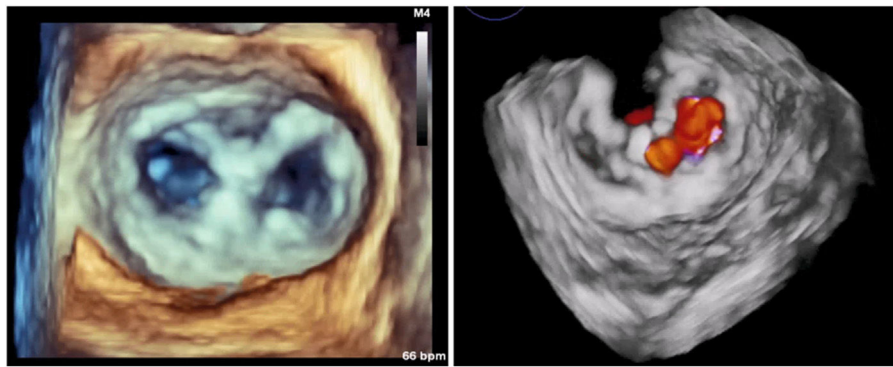


Figure 3.

A 79-year-old woman was consented for MitraClip (Abbott Vascular, USA) implantation ([figure 1](#)). The pertinent informed consent was obtained. Attempts at transseptal puncture (TSP) via a Mullins sheath and manually curved Brockenborough needle, at various angles, were unsuccessful due to severe venous tortuosity. Attempts to straighten the inferior vena cava (IVC) with a 14-Fr sheath were futile. We then used a medium sized Agilis steerable catheter (St Jude Medical, USA) to reach the fossa ovalis. A TSP was performed by delivering a short burst of radiofrequency energy (~ 60 W) to a 0.014 inch Confianza guidewire (Asahi Intecc, USA). Subsequently, the Agilis sheath was introduced into the left atrium (LA) and 2 guidewires, Amplatz Super-and Extrastiff (Boston Scientific, USA), were placed in the left upper pulmonary vein. Next, the 14-Fr sheath was removed and, after venous access dilation (18-Fr), the 24-Fr steerable guide catheter (GC) was delivered over the Superstiff wire. However, it remained impossible to cross the interatrial septum (IAS) with the GC due to poor support and pushability of the tortuous IVC. The GC was kept in the right atrium and a 7-Fr sheath was inserted over the buddy wire (Amplatz Extrastiff). Then, a 10 x 40 mm percutaneous transluminal angioplasty balloon septostomy was performed and upon balloon deflation, the 24-Fr GC was inserted into the LA ([figure 2](#)). Finally, a MitraClip was positioned to treat the A2-P2 prolapse ([figure 3](#)).

In tortuous IVC, IAS access can be facilitated by electrocautery assisted TSP, balloon septostomy, and the buddy wire technique for advancing the sheath while concurrently deflating and pulling the balloon.

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AUTHORS' CONTRIBUTIONS

All authors participated in the work and reviewed and agreed with the content of the article. F. Kargoli performed the data and image collection and was responsible for drafting the manuscript. S. Brouha and A. Latib participated in clinical data extraction and manuscript writing. A. Latib had the overall responsibility for the case and as the corresponding author confirms full access to all aspects of the writing process and takes final responsibility for the paper.

CONFLICTS OF INTEREST

A. Latib has served on the advisory boards of Medtronic, Abbott Vascular, and Edwards Lifesciences. The other authors have no conflicts of interest to declare.