

Clinical Case Study: MitraClip™ Deployment with ACUSON AcuNav™ Volume ICE Catheter

Case courtesy of Dr. Gagan D. Singh
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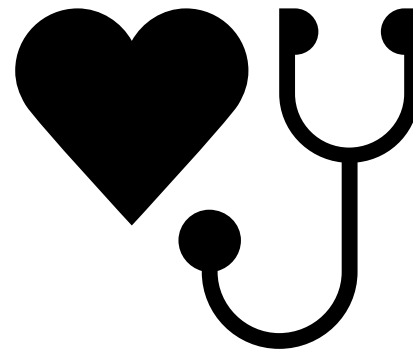
AcuNav Volume ICE catheter

Clinical case review

A 38yr old female with significant osteogenesis imperfecta, severe scoliosis and severe myxomatous mitral valve insufficiency from bileaflet prolapse was referred for MitraClip.



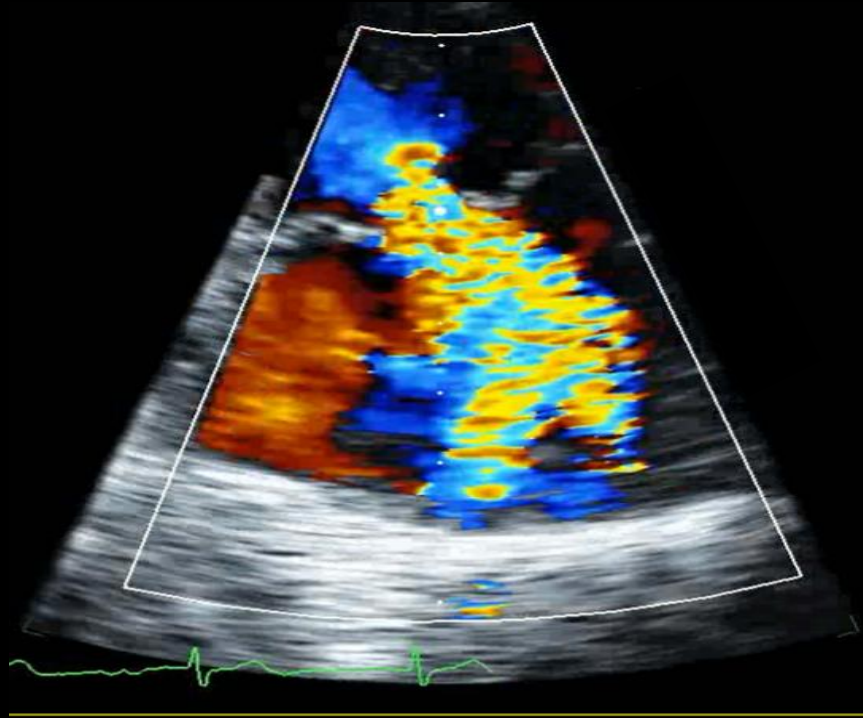
Additional history of COPD with CO2 retention, obstructive sleep apnea. She has been experiencing dyspnea, consistent with NYHA III symptoms.



Adult TEE transducer could not be advanced due to the severe scoliosis and pediatric TEE imaging was suboptimal for use in the procedure. TTE, fluoroscopy and volume ICE were used to successfully deploy a MitraClip.



Pre-procedural imaging

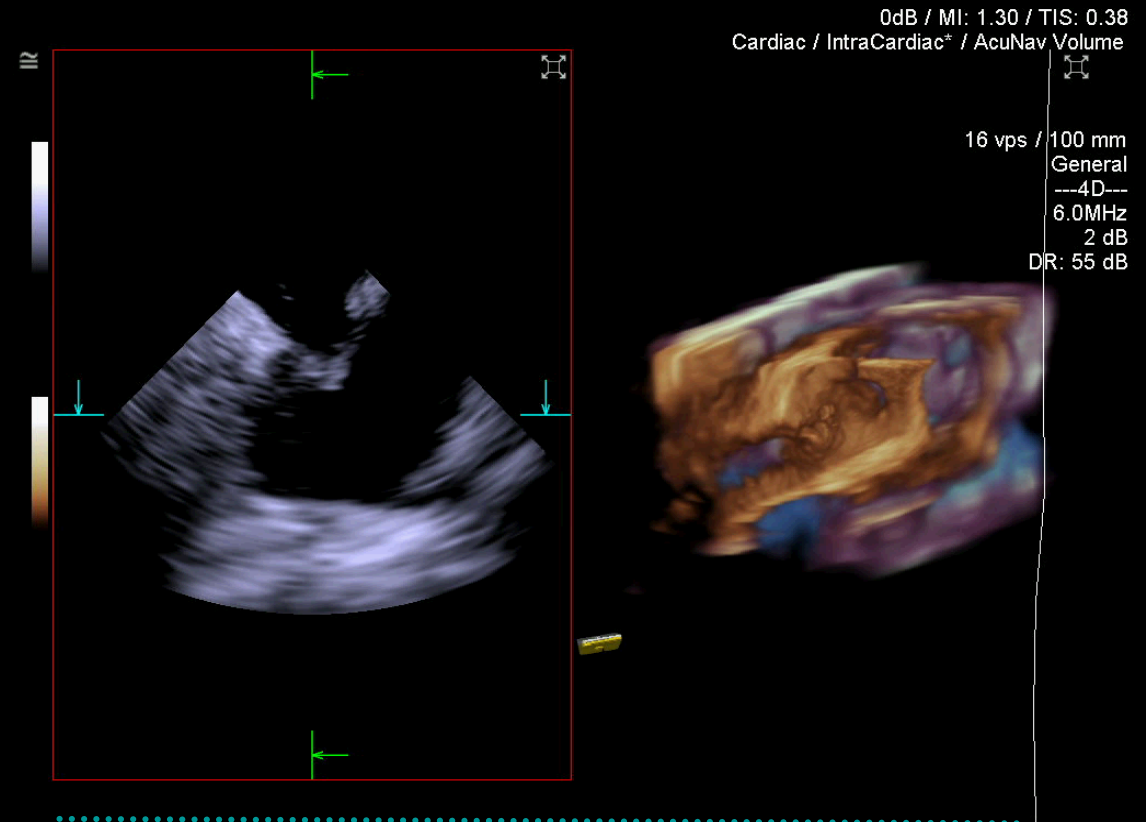


Due to the patient's severe curvature of the spine, transesophageal (TEE) echocardiogram could not be performed. Instead, a pre-procedural transthoracic echocardiogram demonstrated severe mitral regurgitation.

Transseptal puncture

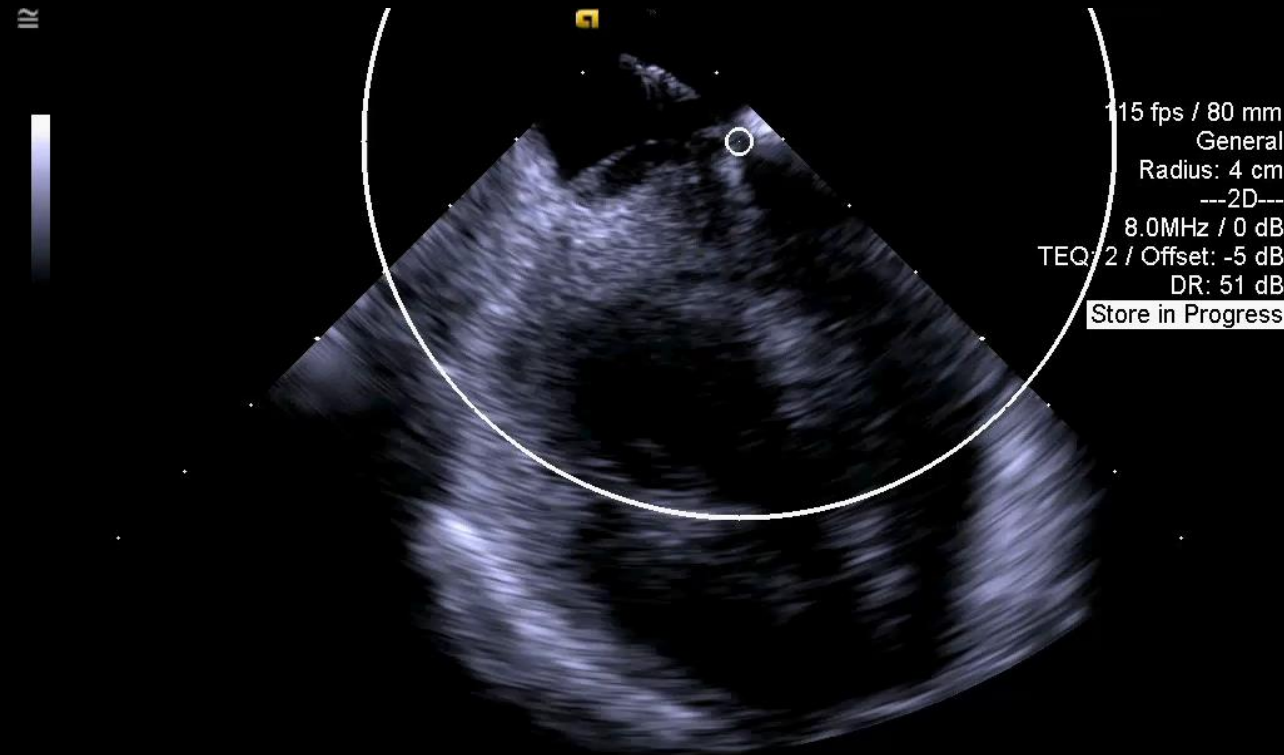
The ACUSON AcuNav Volume ICE catheter was then positioned in the mid-right atrium in the “Home View.” The catheter was rotated clockwise to approximately the 4 o’clock position to obtain the atrial septal view.

The goal was to visualize the fossa ovalis (thin portion) which is the optimal puncture site for transseptal access.



Depending on patient anatomy, a slight posterior tilt may be required to better visualize a greater portion of the septum.

Circle tool

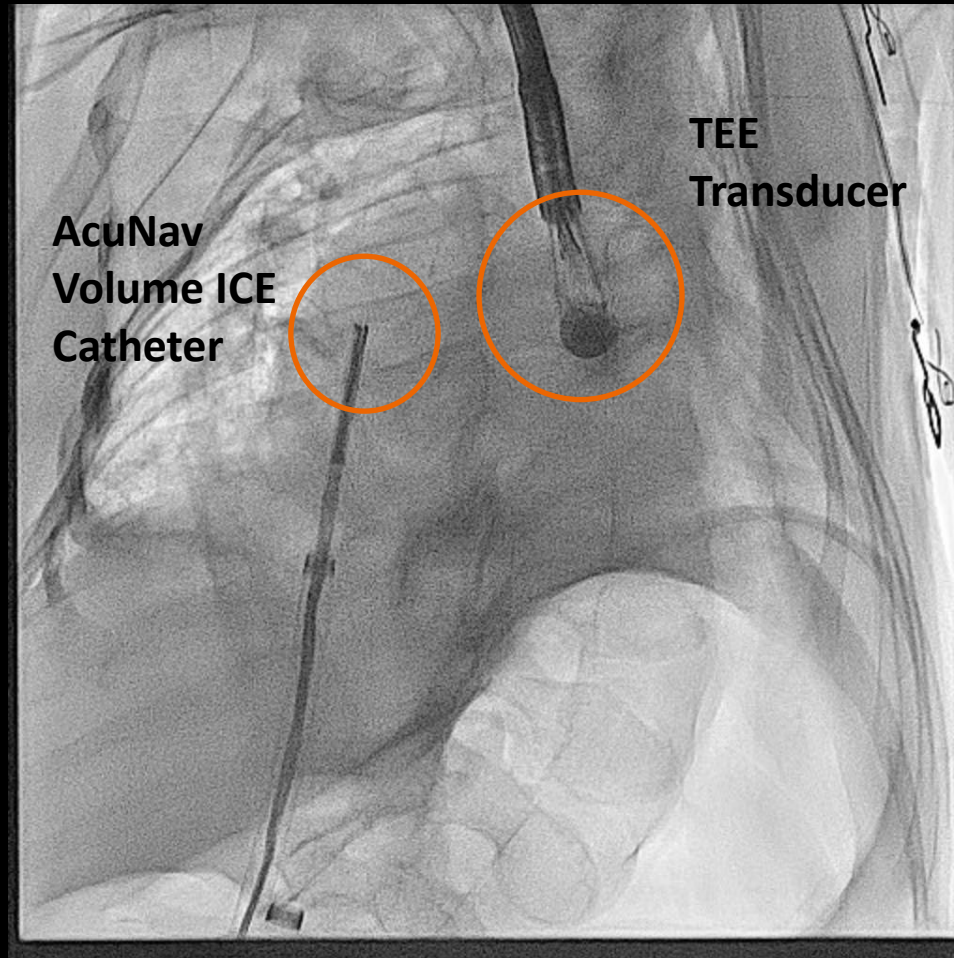


Typically, the goal is to cross the septum superiorly and posteriorly at a distance of 4.5 cm from the mitral annular plane.

As demonstrated in this image, the circle tool was used to identify the distance between the mitral leaflets and the mitral annulus.

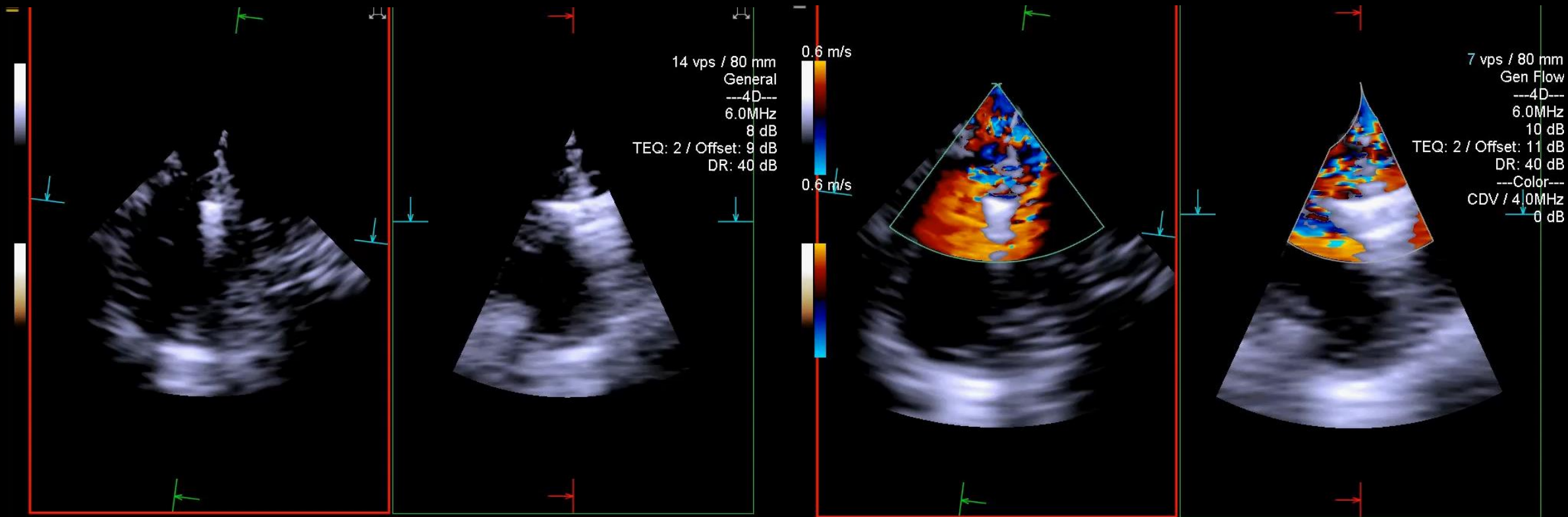
Adequate transseptal position ensures the MitraClip deployment system has room for a straight downward trajectory to the apex of the ventricle with minimal manipulations.

Fluoroscopic image



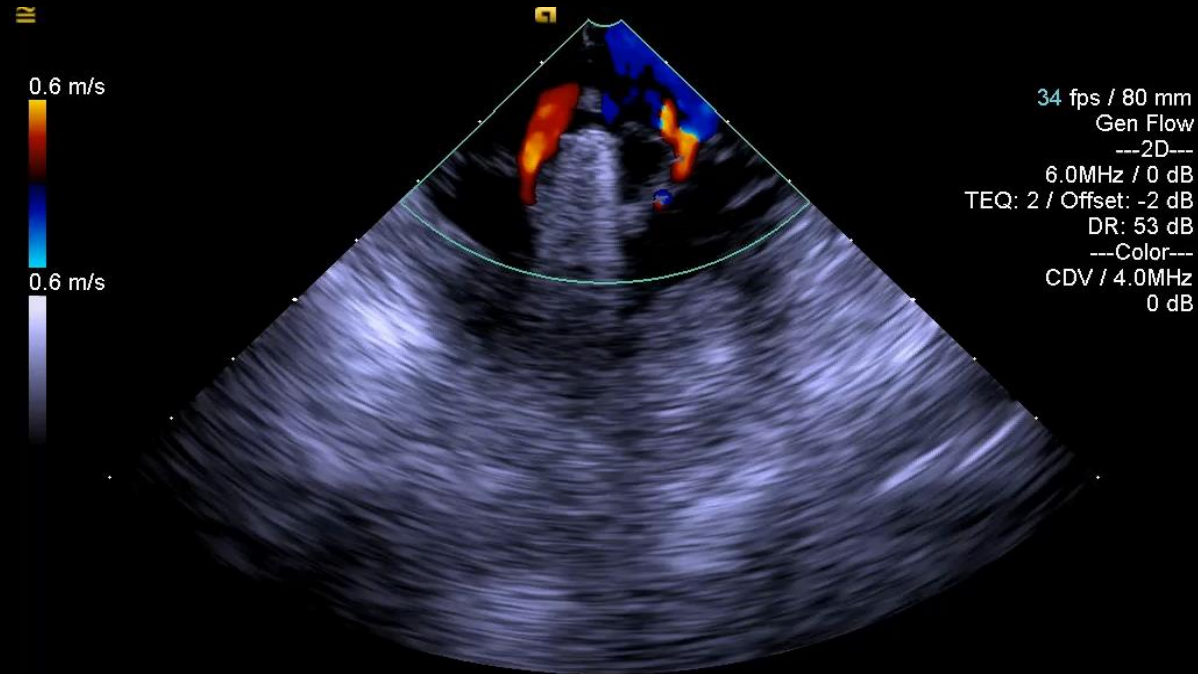
A fluoroscopic image is used to identify the position of the AcuNav Volume ICE catheter and the TEE transducer.

The patient's severe scoliosis was also observed under fluoroscopy.



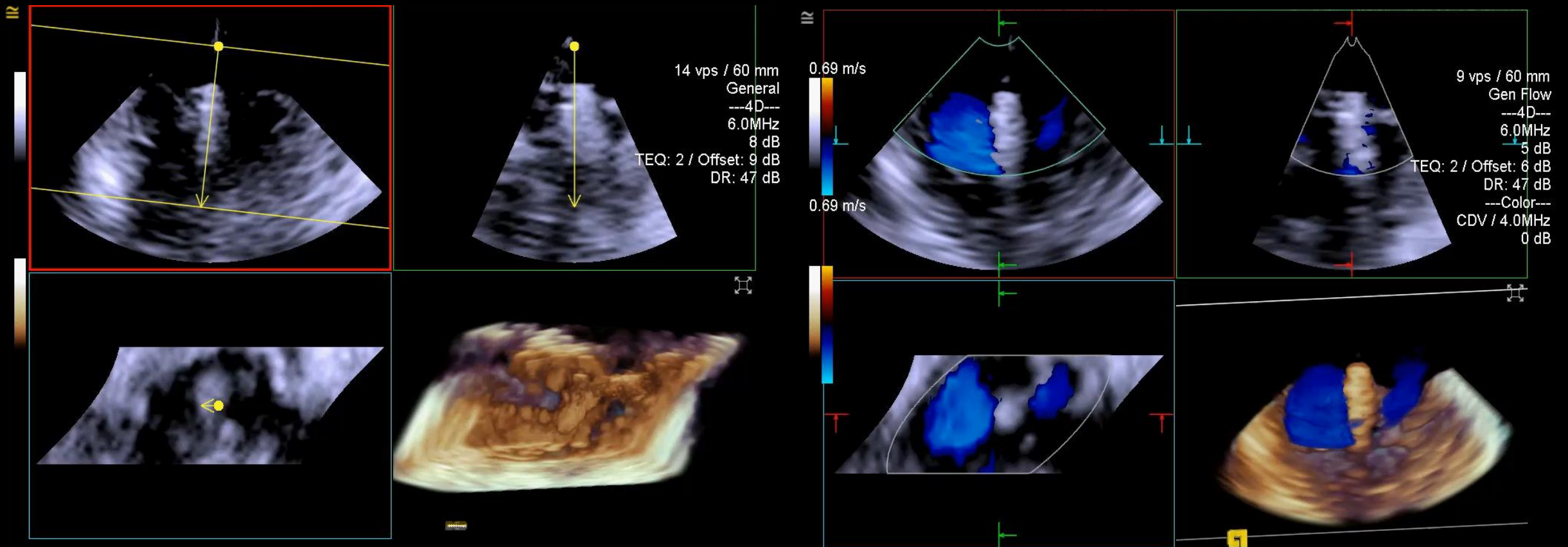
Use of Bi-plane imaging with and without color Doppler was useful in guiding the device to the best position and documenting the decreased mitral regurgitation.

Post-deployment imaging



After deploying the MitraClip, 2D and color flow Doppler revealed two small residual mitral regurgitation jets.

The ACUSON AcuNav Volume ICE catheter provided the ability to see the heart in real-time and visualize the regurgitation before, during and after the MitraClip was deployed.



4D volume ICE Imaging with and without color Doppler

“In patients with relative or absolute contraindication to TEE, the 4D Volume ICE catheter allows for alternative imaging guidance that was not previously available. Availability of this catheter allows us to help treat such patients and thereby help improve their quality of life.”

**Dr. Gagan Singh
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Due to regulatory reasons their availability cannot be guaranteed.
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Thank you for your enthusiasm!

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