

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

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

This is command, in your hands.

When lives are at stake,
you take command.

Now you can see more
of what you want, when
you want. The next level
of visualization puts you
in command.

Comprehensive visualization

See full details of the heart in dynamic, 4D motion even while imaging patients in arrhythmias. Comprehensive, instant visualization enables more precise navigation, guidance, and measurement.¹

Clear line of sight

Achieve direct imaging of the tricuspid valve. A clear line of sight reduces shadowing and bypasses anatomical obstructions that can make imaging uncertain.²

5 Points of Command

Confident operation

Take charge of image guidance. Confident operational control is in your hands with simultaneous tableside command of the ultrasound system and the catheter, which can be controlled with one hand.

Consistent, reliable data

Get accurate LAAC measurements from a single view.³ Consistent, reliable data give you confidence to confirm PASS criteria.

Conscious sedation

Freedom to use conscious sedation means not compromising safety for optimal outcomes.

1. Compared with 2D ICE.

2. Compared with TEE.

3. Accurate compared to 2D ICE, where you can ensure that you're measuring in the orthogonal plane with reference plane manipulation compared to 2D ICE and TEE catheter manipulations.

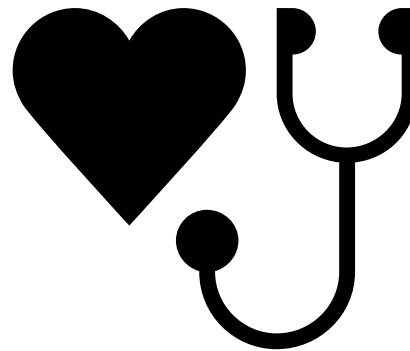
AcuNav Volume ICE catheter

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.

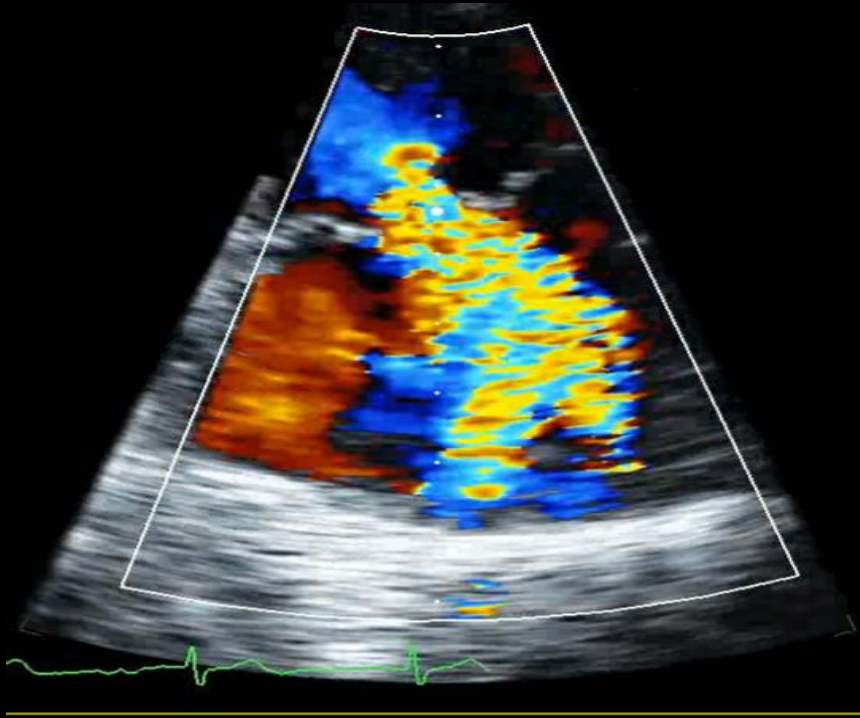


Additional history of COPD with CO2 retention, obstructive sleep apnea. She has been experiencing dyspnea, consistent with NYHA III symptoms.



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.



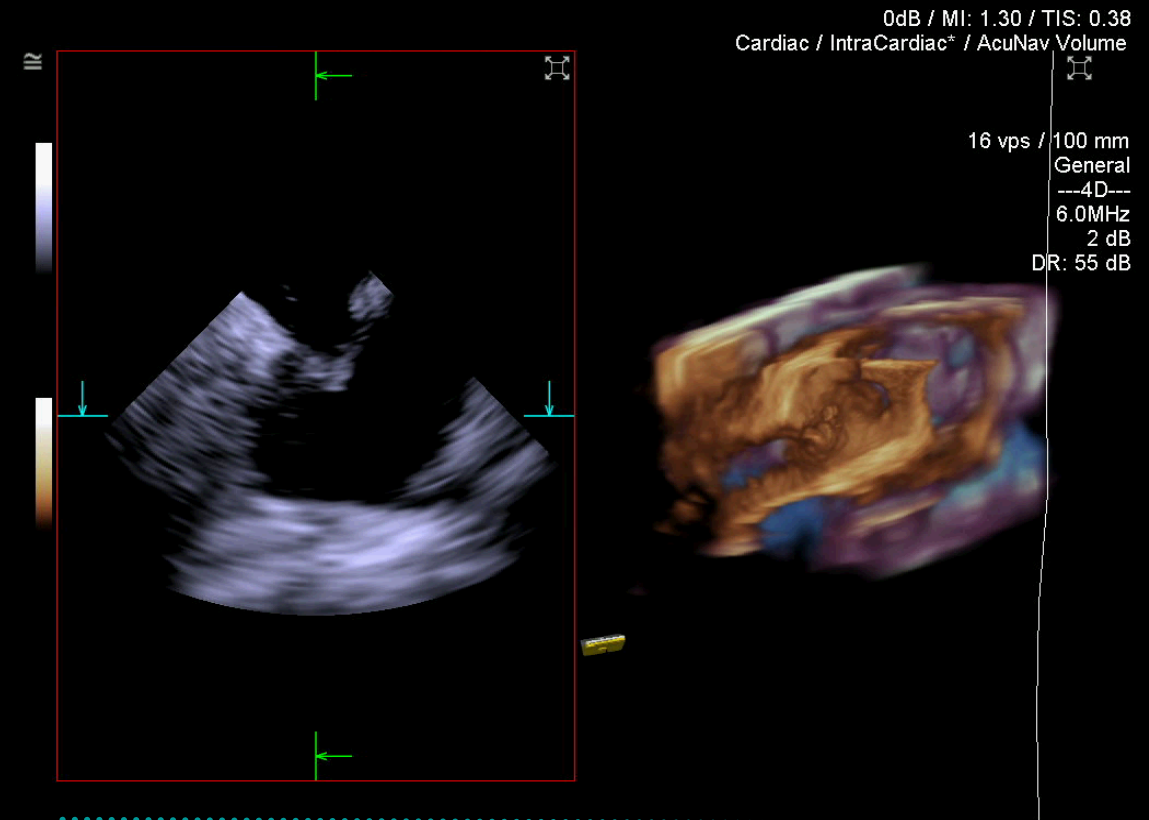


Due to the patient's severe curvature of the spine, transesophageal (TEE) echocardiogram could not be performed. Instead, a pre-procedural transthoracic echocardiogram demonstrated severe mitral regurgitation.

Transseptal puncture

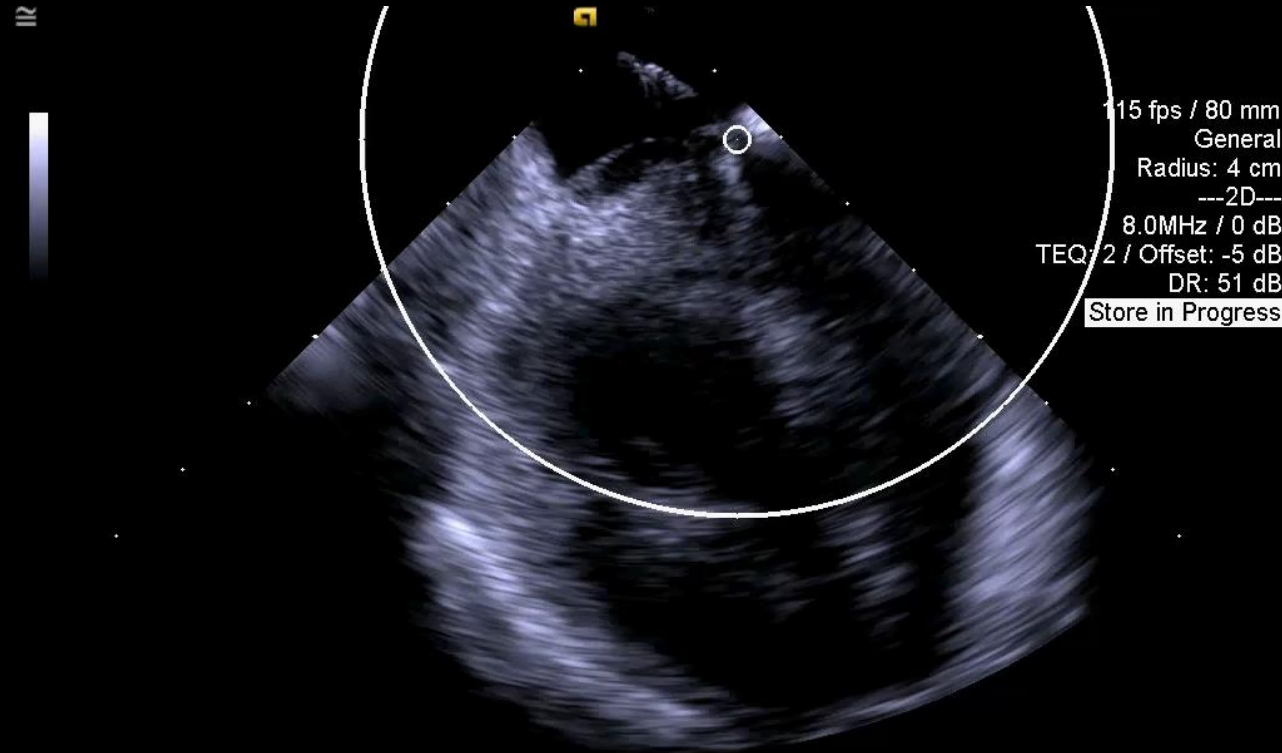
The ACUSON AcuNav Volume ICE catheter was then positioned in the mid-right atrium in the “Home View.” The catheter was rotated clockwise to approximately the 4 o’clock position to obtain the atrial septal view.

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

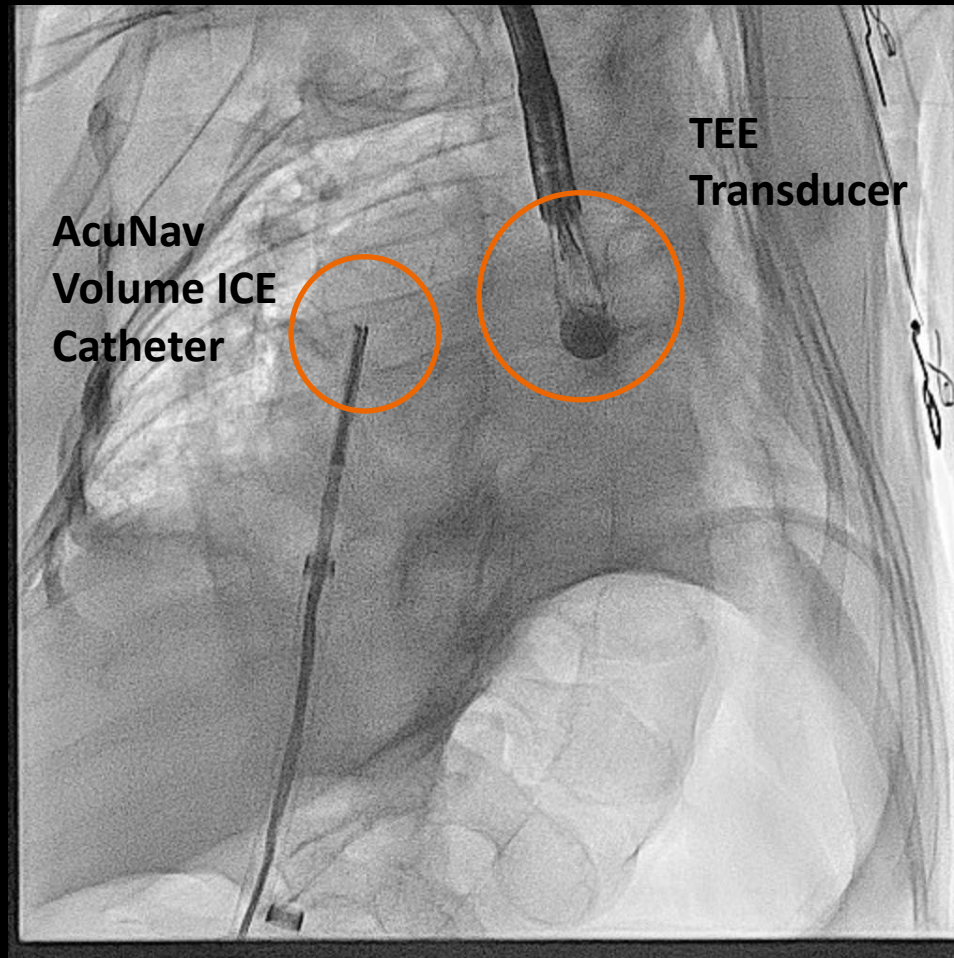


Typically, the goal is to cross the septum superiorly and posteriorly at a distance of 4.5cm from the mitral annular plane.

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

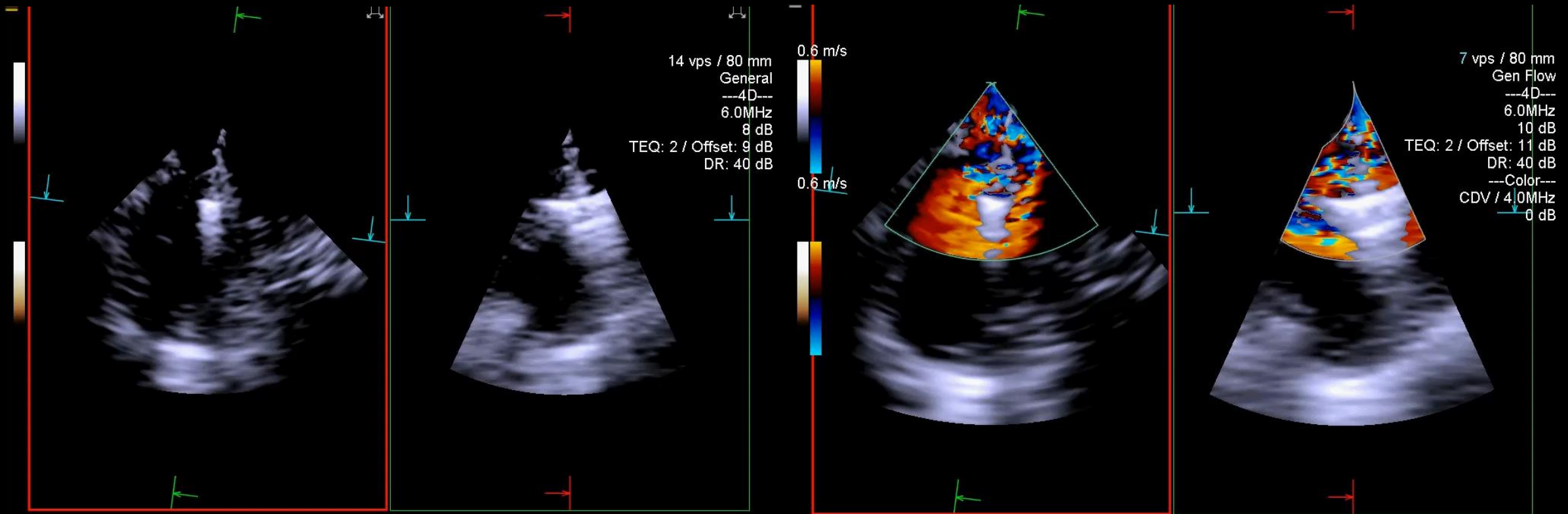
Adequate transseptal position ensures the MitraClip deployment system has room for a straight downward trajectory to the apex of the ventricle with minimal manipulations.

Fluoroscopic image



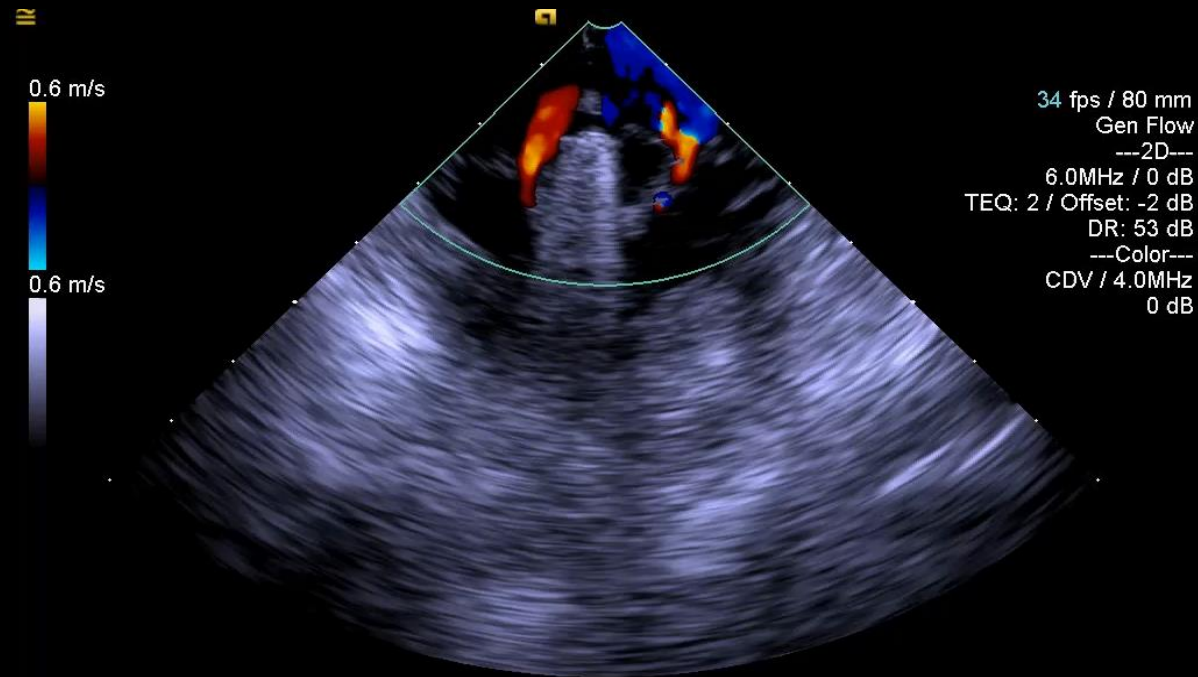
A fluoroscopic image is used to identify the position of the AcuNav Volume ICE catheter and the TEE transducer.

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.

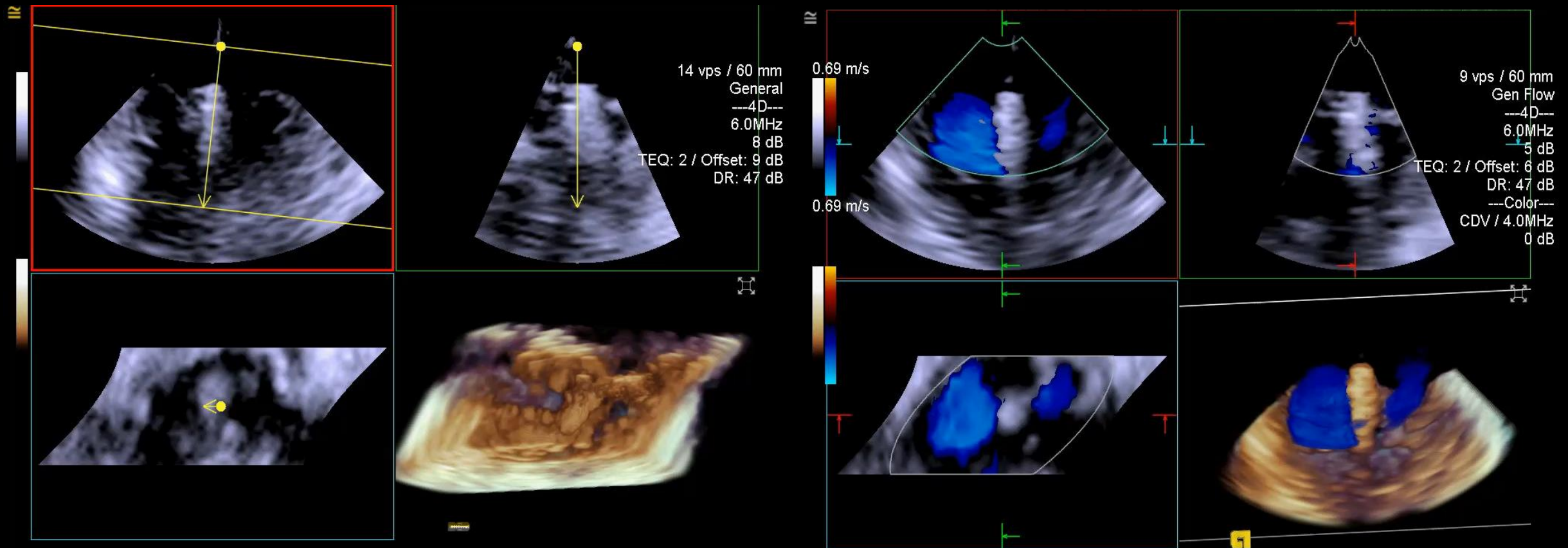
Post-deployment imaging



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.

Post-deployment imaging



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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Mentioned products/features are not necessarily commercially available in all countries.
Due to regulatory reasons their availability cannot be guaranteed.
Please contact your local Siemens Healthineers organization for further details.

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Thank you for your enthusiasm!

Siemens Healthineers

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