

Pulsating Left Breast After Trans-Apical Aortic Valve Implantation: An Ominous Sign

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Pulsating Left Breast After Trans-Apical Aortic Valve Implantation: An Ominous Sign

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Introduction

- Transcatheter aortic valve implantation (TAVI) by femoral or apical route is a new procedure and is becoming more popular compared to surgical aortic valve replacement especially in high risk patients.
- Complications from these relatively new procedures are currently being reported in the literature.
- Complications include stroke, vascular access site complications, (bleeding, pseudoaneurysms, arterial rupture), valve embolization or migration, perivalvular regurgitation, myocardial infarction and infection.
- We report a case of a giant iatrogenic left ventricular apical pseudoaneurysm after a trans-apical TAVI that presented as pulsating left breast.

Case

- A 63 YO female presented to the hospital with progressive shortness of breath and syncope.
- She had a past history of coronary artery disease status post CABG and aortic stenosis status post bioprosthetic aortic valve replacement done nine years ago.
- A transthoracic echocardiogram showed severe prosthetic aortic valve stenosis with a mean gradient of 63 mmHg and aortic valve area of 0.5 cm. A cardiac catheterization showed patent bypass grafts.
- Transapical TAVI was recommended due to poor vascular access for femoral approach and high risk for traditional surgical replacement.
- She underwent successful trans-apical TAVI with a 23mm Edwards Scientific Sapien valve.
- She presented four months after the procedure complaining of a pulsatile left breast.
- A CT scan of the chest showed a large apical pseudoaneurysm measuring 9.7cm x 6.6cm extending through the 4th and 5th rib space into the anterior chest wall [Figure 1].
- A transthoracic echocardiogram confirmed the findings [Figure 2].
- The pseudoaneurysm neck measured 1.17cm [Figure 3].
- There was bidirectional flow represented by continuous wave and color doppler [Figures 3, 4, 5].
- Patient was transferred to a specialized centre where she underwent open repair of the pseudoaneurysm.

Discussion

- Apical pseudoaneurysm after trans-apical TAVI is a rare complication with a reported incidence of around 2% in one series¹.
- Although there are reported cases of this condition, to the best of our knowledge, a pseudoaneurysm of this big size is not reported before as a complication of trans-apical TAVI.
- Most of the reported pseudoaneurysms are small with narrow necks^{2,3}.
- Depending upon size, the pseudoaneurysms can be managed conservatively or closed either surgically or percutaneously^{1,2,3}.

Figure 1
Large Left Ventricular Apical Pseudoaneurysm



Figure 2
Apical four chamber view showing apical pseudoaneurysm

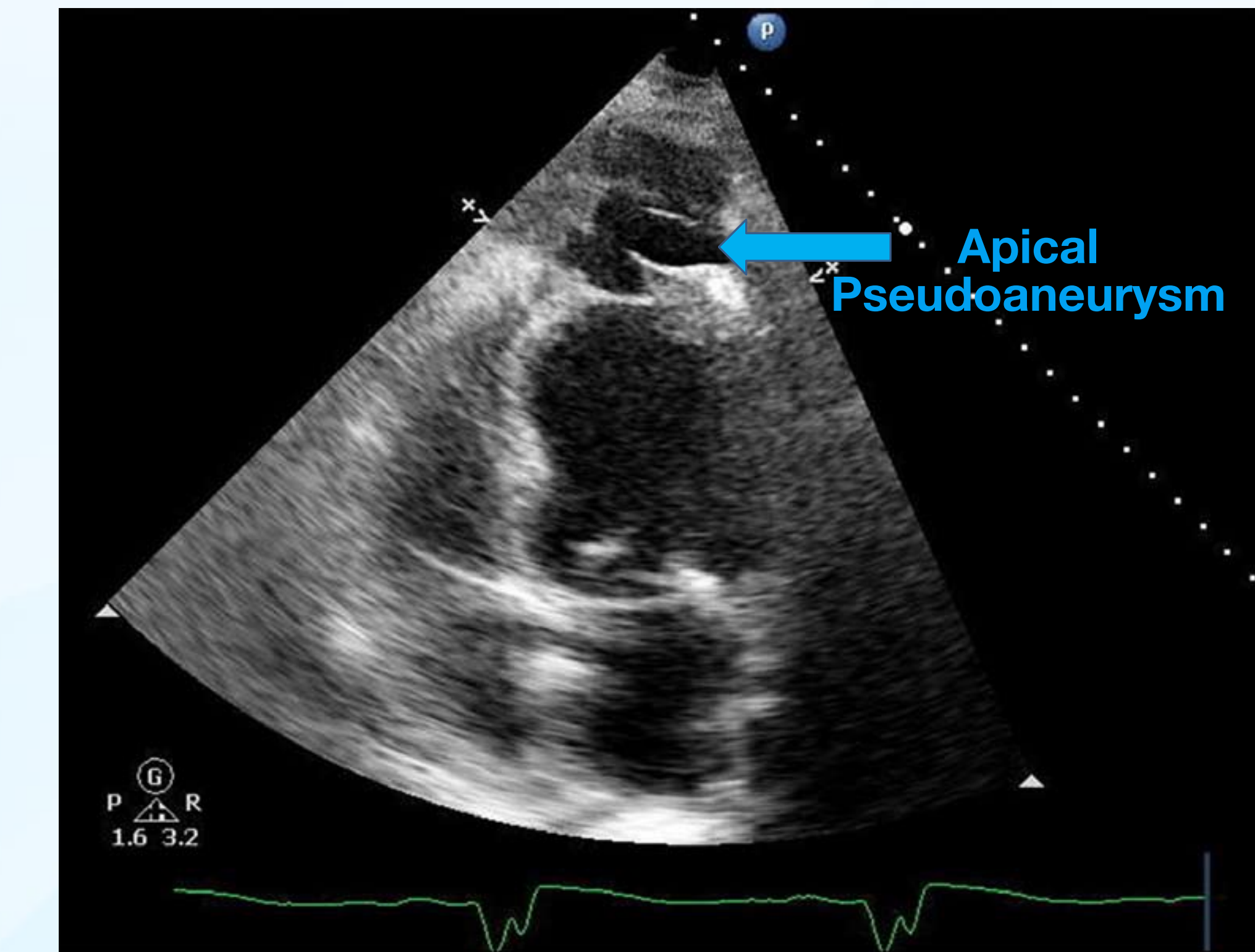


Figure 3
Color doppler showing flow into the pseudoaneurysm in systole

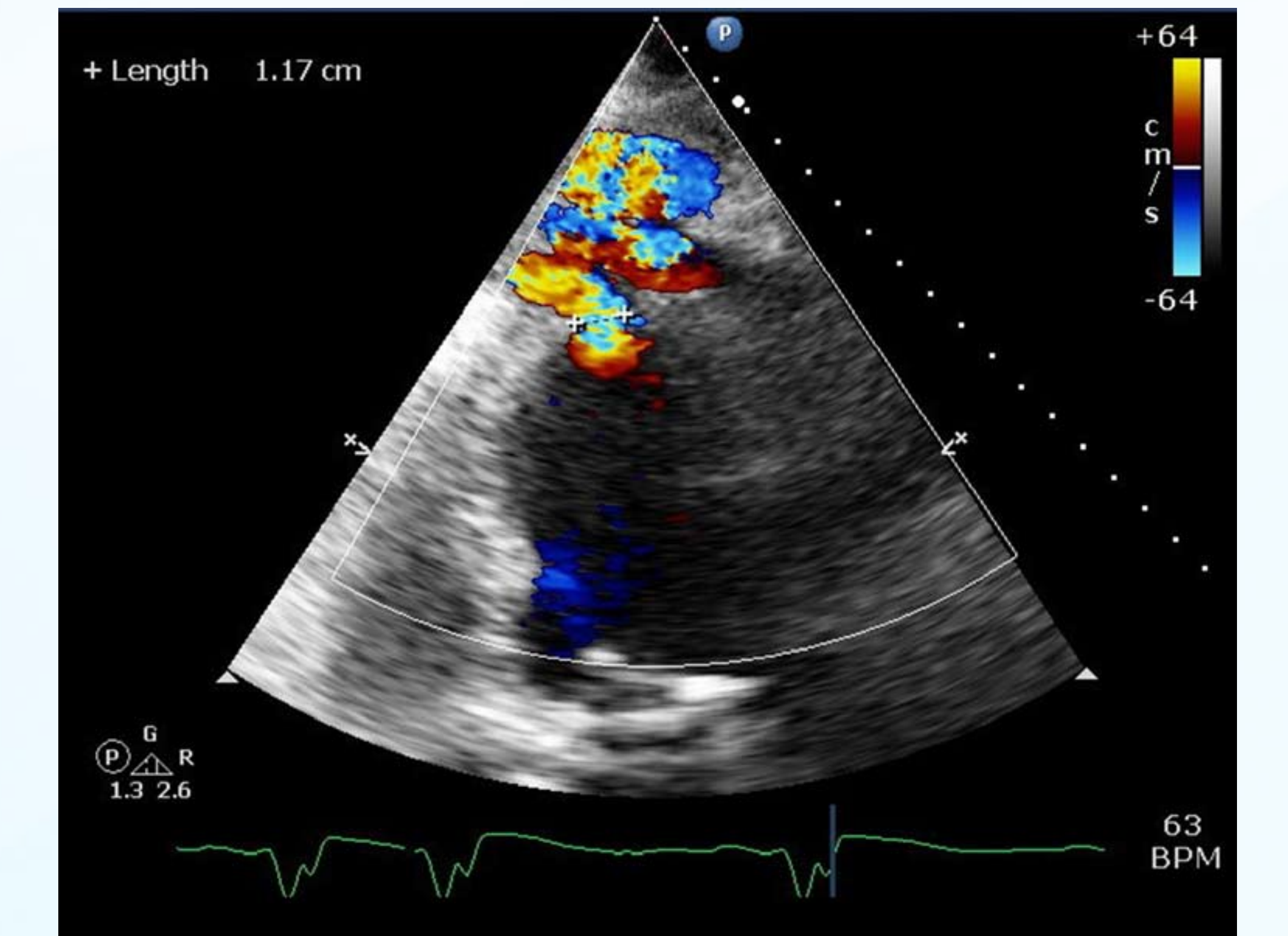


Figure 4
Color doppler showing flow out of the pseudoaneurysm in diastole

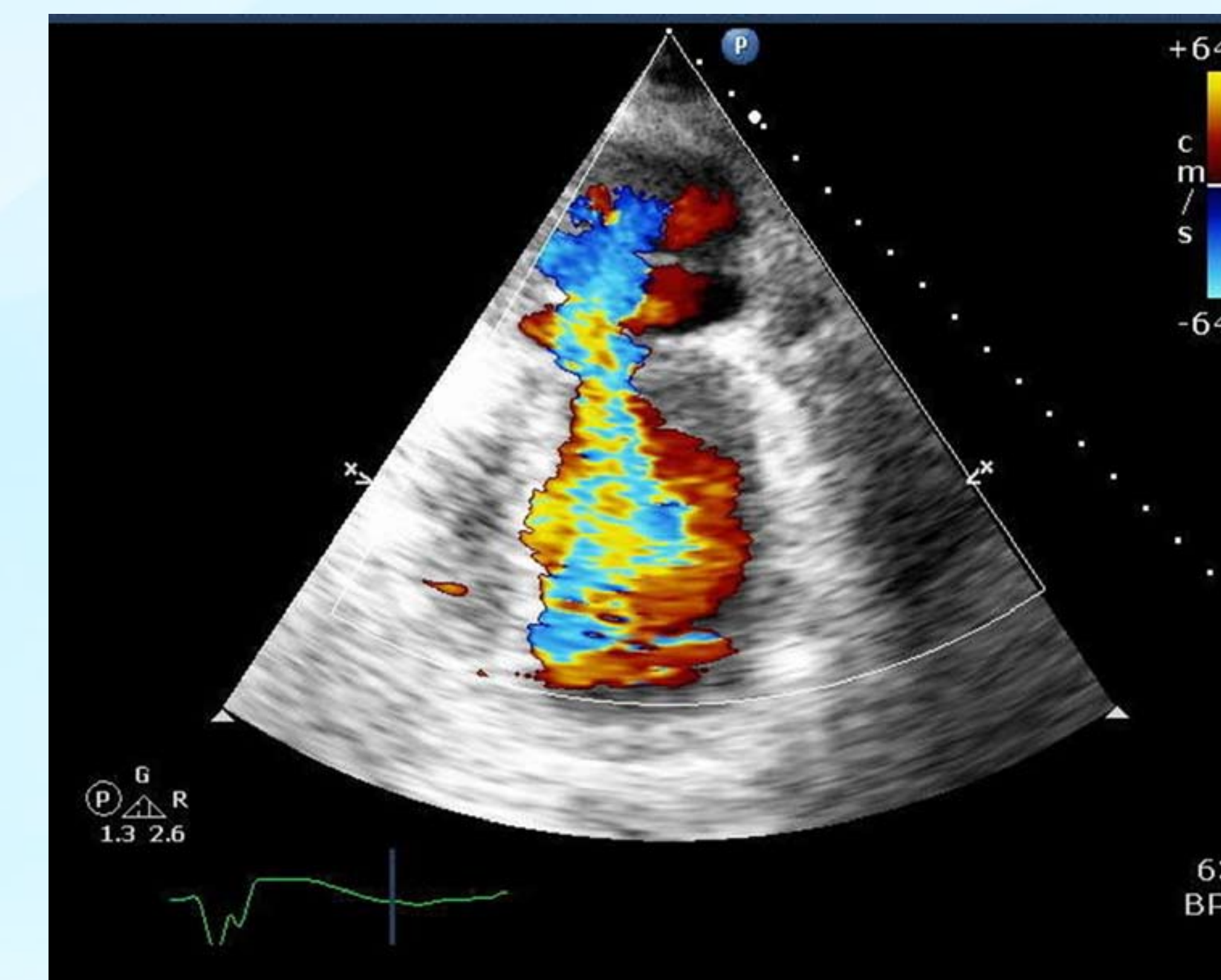
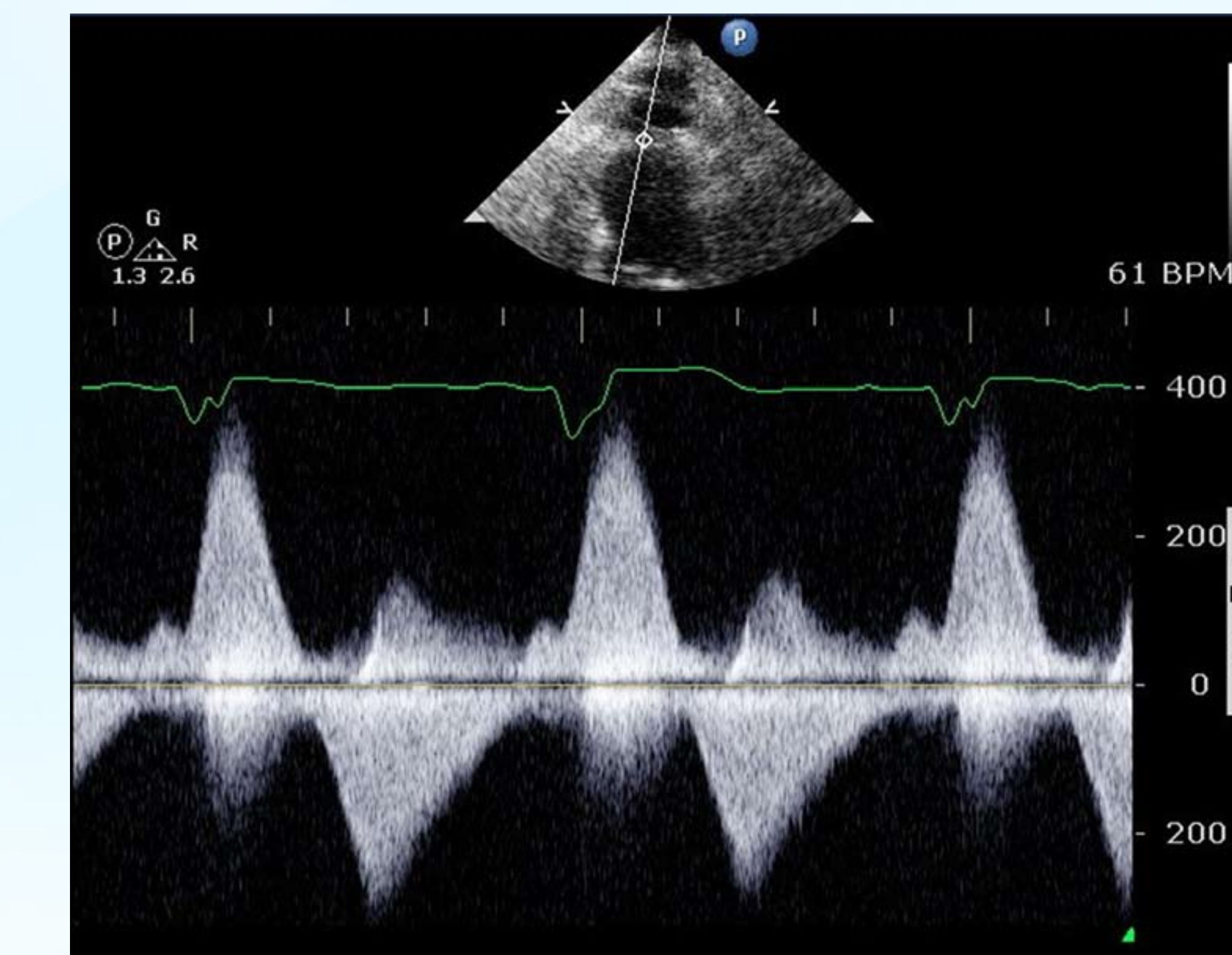


Figure 5
Continuous wave Doppler showing flow in and out of pseudoaneurysm



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