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Background

Left atrial (LA) myxomas, the most common primary cardiac tumor, typically manifest with symptoms from local mass effects, particularly mitral inflow obstruction, resulting in LA enlargement, decreased left ventricular (LV) filling and rapid reductions in cardiac output. Atrial fibrillation (AFIB), a common complication of LA dilation, further impairs LV filling with loss of atrial systole. We present the case of a patient with recurrent syncope found to have paroxysmal AFIB and a massive obstructive LA myxoma.

Clinical Case

A 53-year-old male with past medical history of hypertension, diabetes mellitus, and polysubstance abuse presented with recurrent syncope. He was hemodynamically stable, and cardiac exam did not reveal any murmurs or tumor plops. Initial EKG was notable for sinus rhythm with LA abnormality (figure 1). Transthoracic echocardiography revealed a LA mass prolapsing across and obstructing mitral inflow during diastole (figure 2). Telemetry later revealed paroxysmal AFIB. Cardiac computed tomography demonstrated the prolapsing and attachment to the interatrial septum (figure 3). He underwent surgical excision of a 5.8 x 4.0 x 3.8 cm tumor (figure 4), with intraoperative transesophageal echocardiography (figure 5) redemonstrating the obstructive physiology of the myxoma. Histopathologic analysis (figure 6) revealed stellate myxoma cells and heterogeneous cellular and myxoid background, confirming the diagnosis of myxoma.

Conclusion

Cardiac tumors, while exceedingly rare and typically benign, can present with malignant hemodynamic manifestations from direct valvular, myocardial, and coronary obstructive mass effects, which can be further exacerbated by atrial and ventricular tachyarrhythmias.

References

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2. Maleszewski JJ, Bois MC, Bois JP, et al. Neoplasia and the Heart: Pathological Review of Effects with Clinical and Radiological Correlation. *J Am Coll Cardiol.* 2018; 72(2): 202-227.

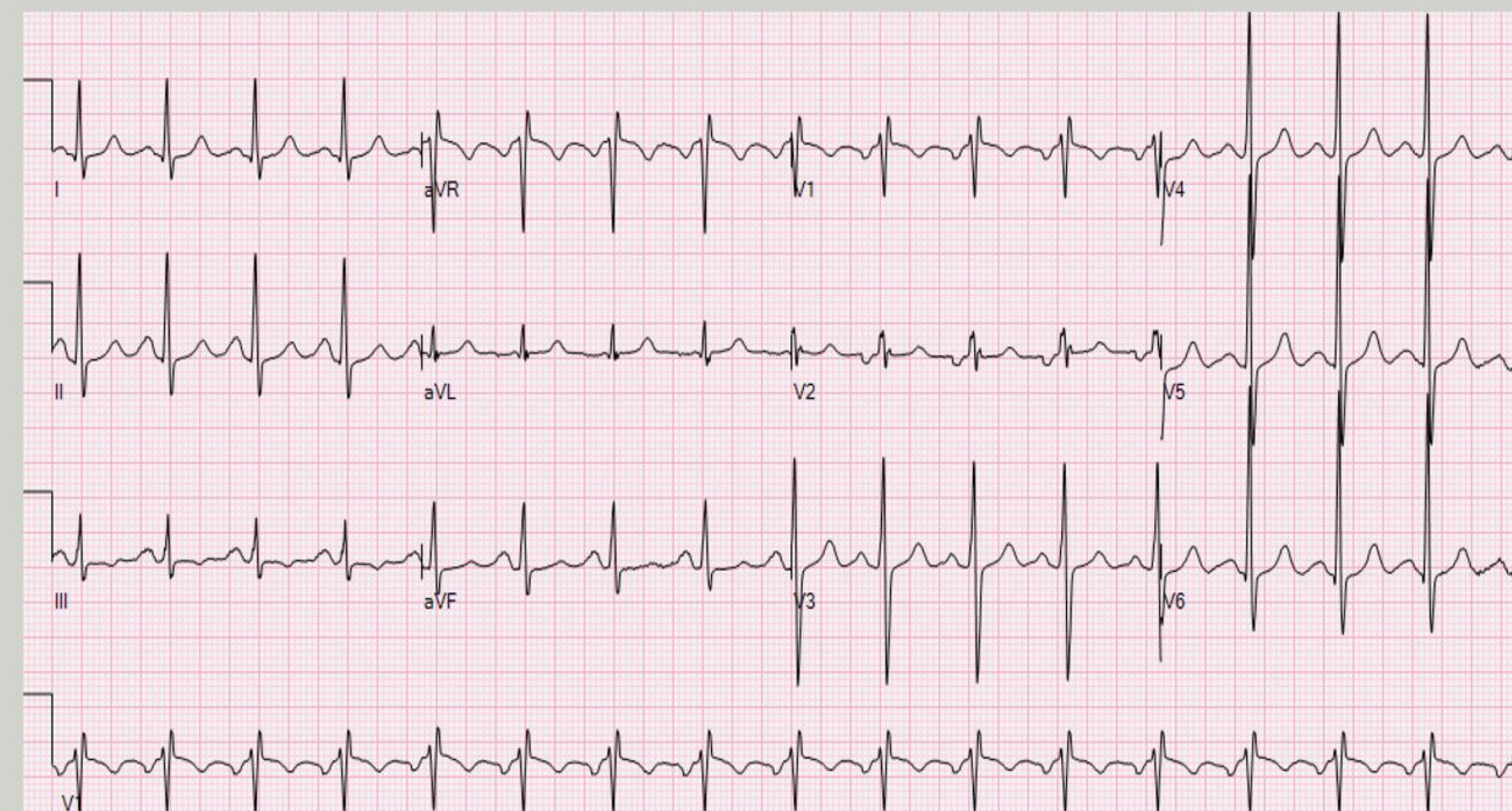


Figure 1: Electrocardiogram (EKG) on presentation showing sinus tachycardia with evidence of left atrial abnormality. Serial EKG and telemetry monitoring would reveal paroxysmal AFIB.

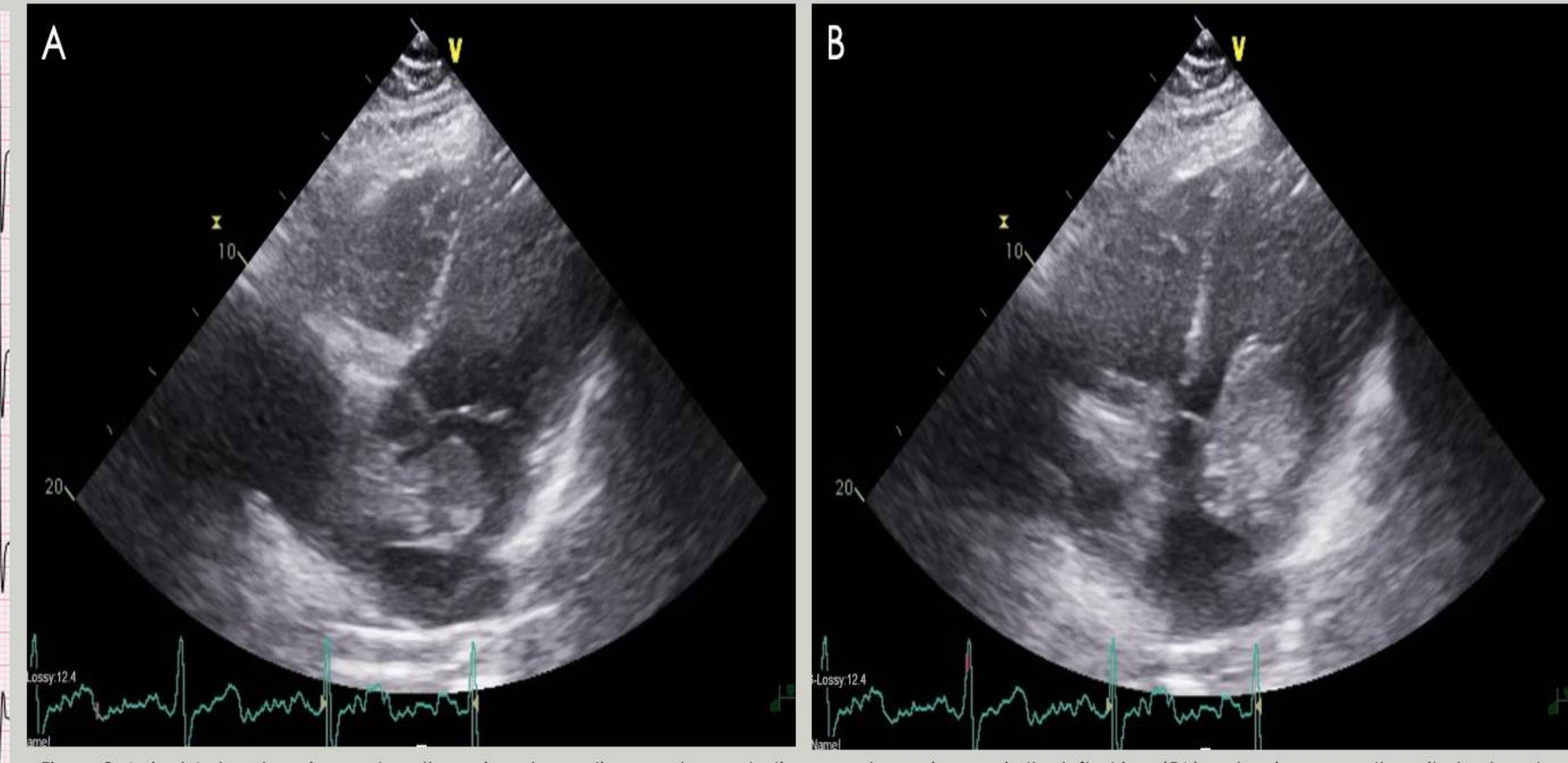


Figure 2: Apical 4 chamber view on transthoracic echocardiogram demonstrating an echogenic mass in the left atrium (5A) prolapsing across the mitral valve at end diastole (5B)

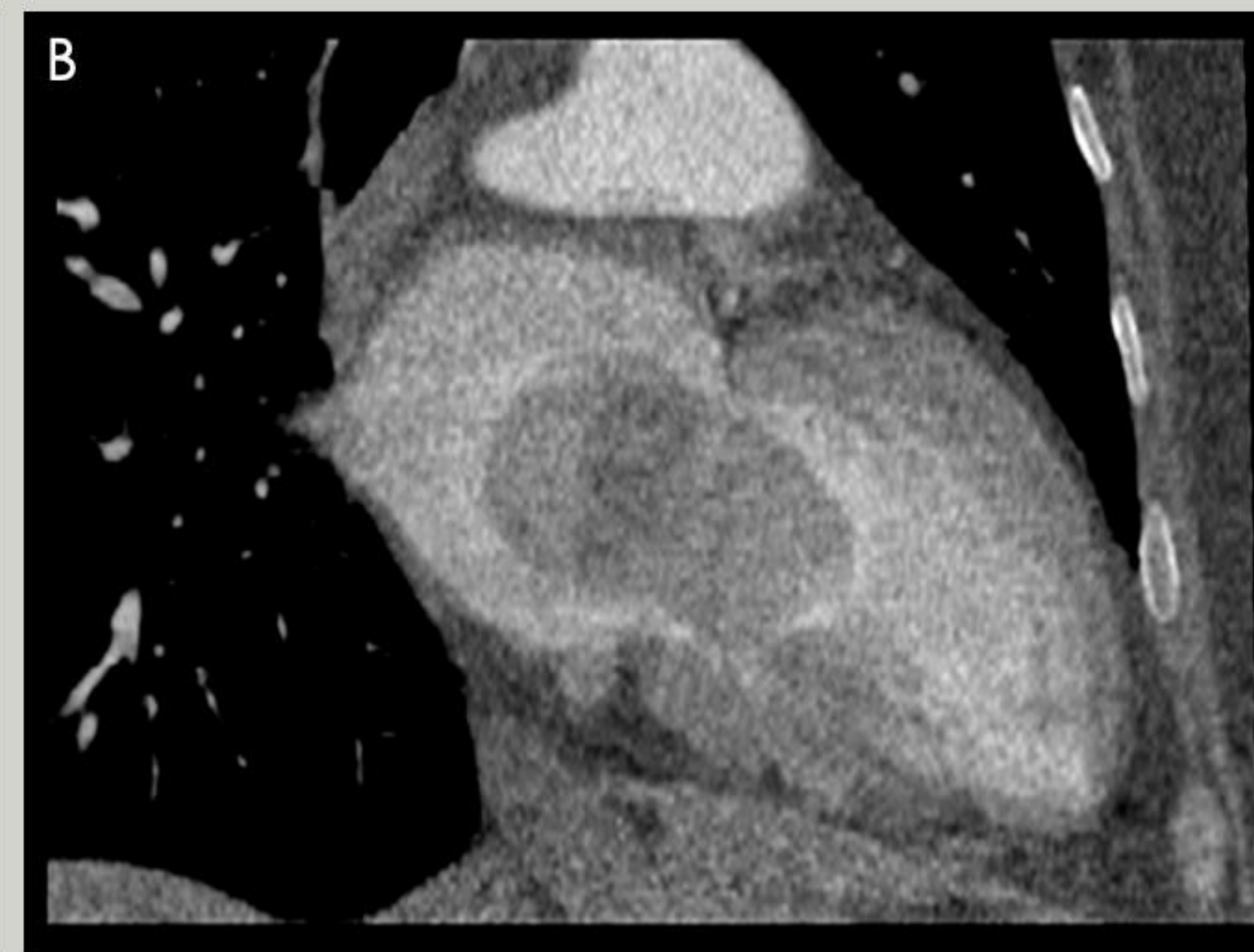


Figure 3: Cardiac CT - 4 chamber view demonstrating a 3.8 x 5.6 cm mass left atrial mass attached to the interatrial septum (3A). 2 chamber view demonstrated prolapse of the mass across the mitral valve (3B).



Figure 4: Resected Left atrial myxoma, with gross surgical pathology examination of 5.8 x 4.0 x 3.8 cm lobulated mass with smooth glistening variegated external surface composed of areas of hemorrhage and areas of translucent myxoid appearance. Serial sections showed a mostly hemorrhagic surface with multiple hemorrhagic cystic cavities separated by septae.

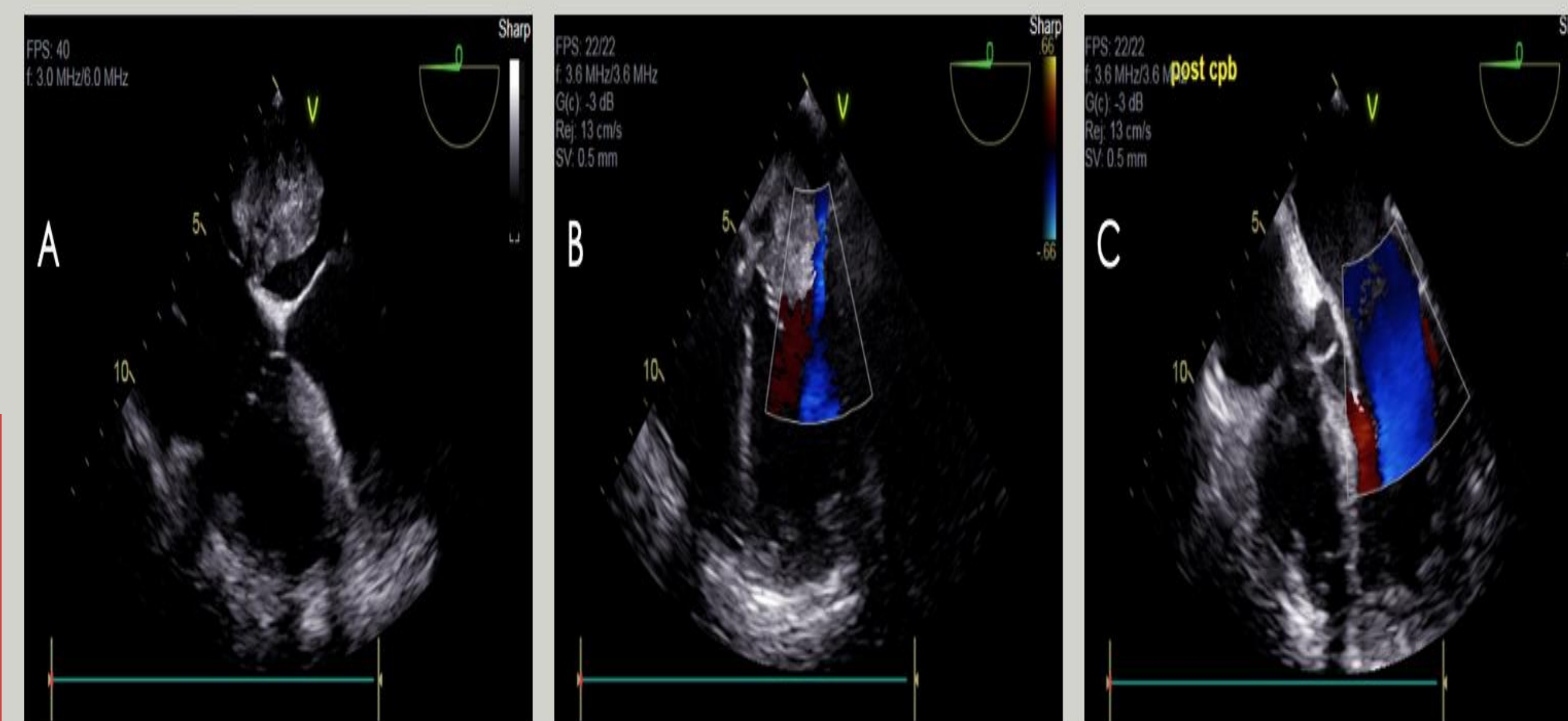


Figure 5: Intraoperative transesophageal echocardiography demonstrating myxoma in left atrium (5A) with obstruction of mitral inflow during diastole (5B), with unimpeded mitral inflow post surgical resection and removal from cardiopulmonary bypass (5C).

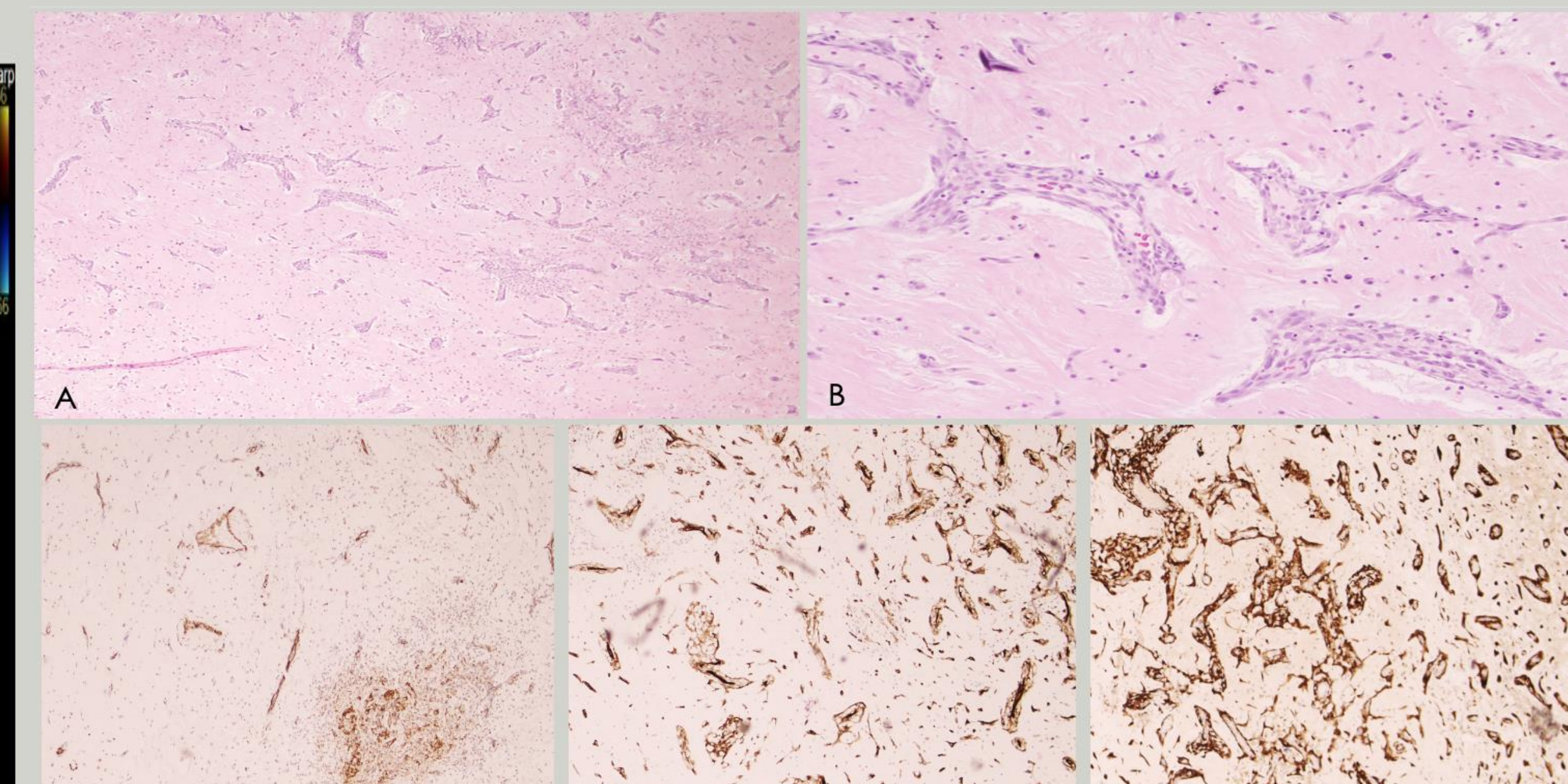


Figure 6: Histopathology. Low-power image (25x magnification) demonstrating abundant pale, eosinophilic myxoid background containing numerous branching cord-like structures (6A). High-power image (200x magnification) demonstrating stellate myxoma cells in syncytial pattern surrounding blood vessels (6B). Lesional tissue immunoreactivity demonstrated positivity for vascular marker CD31 (6C), CD34 (6D), and Calretinin nuclear and cytoplasmic staining, 6C).