



# Insidious Mass Within a Sinus

MULTIMODALITY  
MUSEUM IMAGE

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## ABSTRACT

A 75-year-old patient was incidentally found to have an intracardiac mass by echocardiography. Subsequent cardiac magnetic resonance imaging and cardiac positron emission tomography confirmed a large and possibly malignant mass extending from the right atrium into the coronary sinus.

The patient underwent an intracardiac echocardiography guided biopsy, which revealed diffuse B-cell lymphoma, and is currently undergoing rituximab, etoposide, vincristine, cyclophosphamide, and doxorubicin (R-EPOCH)-based chemotherapy.

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## KEYWORDS:

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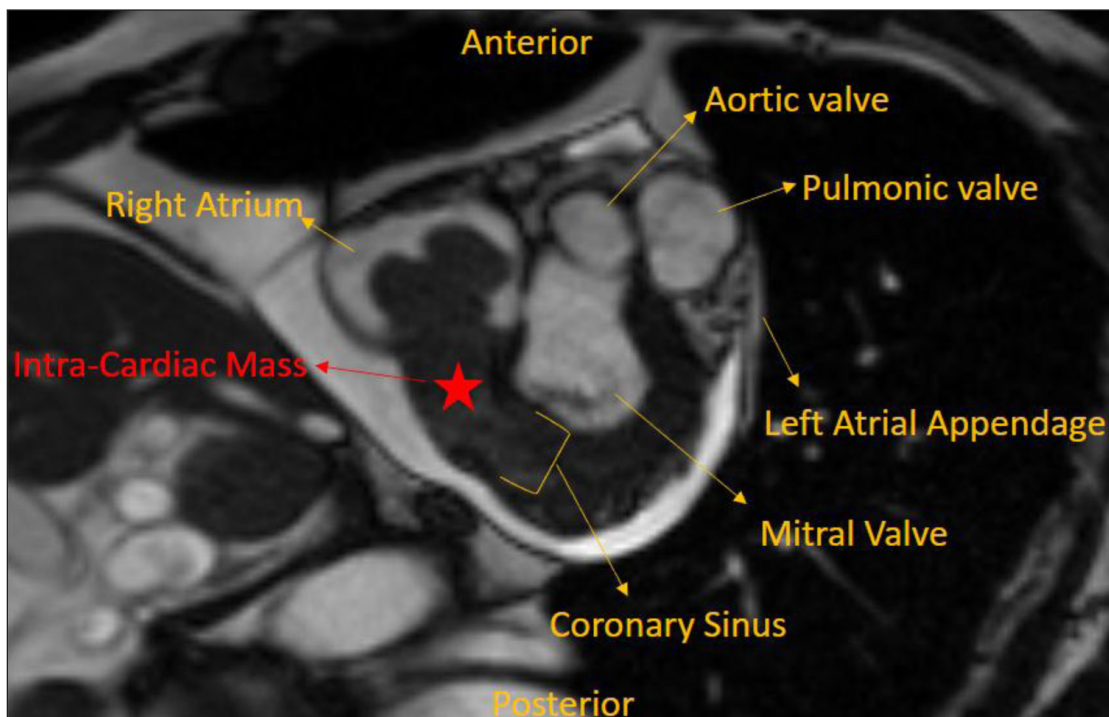
## BRIEF DESCRIPTION

A 75-year-old patient with a past medical history of coronary artery disease, peripheral vascular disease, diabetes mellitus, and hypertension was incidentally found to have an intracardiac mass by echocardiography performed at an outside institution.

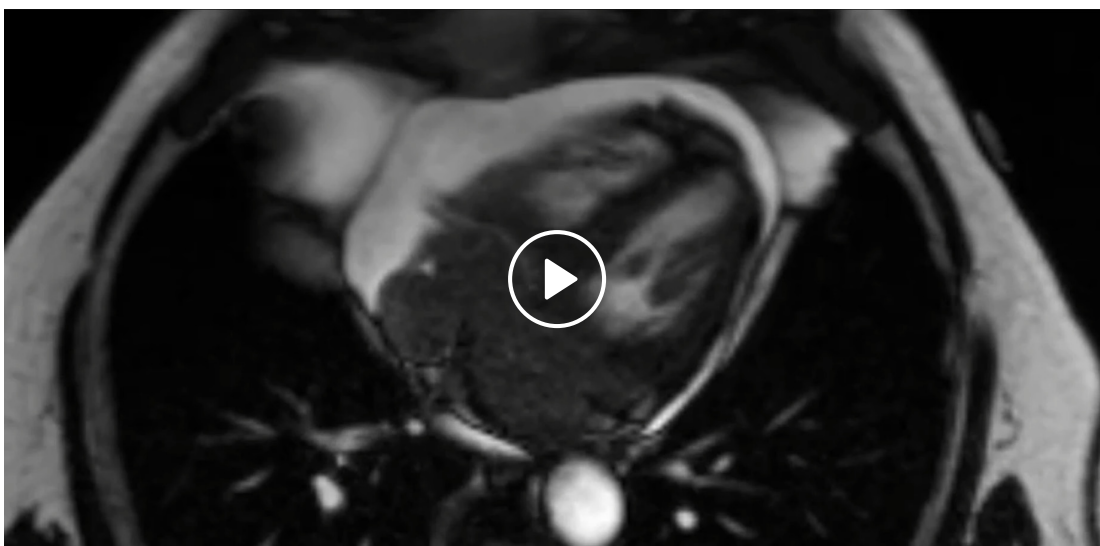
Subsequently, the patient underwent cardiac magnetic resonance imaging to confirm the presence and extent of

the mass (Figure 1; Video 1). A cardiac positron emission tomography study was performed in order to determine if the mass was a benign or malignant tumor (Figure 2). The patient underwent an intracardiac echocardiography guided biopsy, which revealed diffuse B-cell lymphoma (Figure 3).

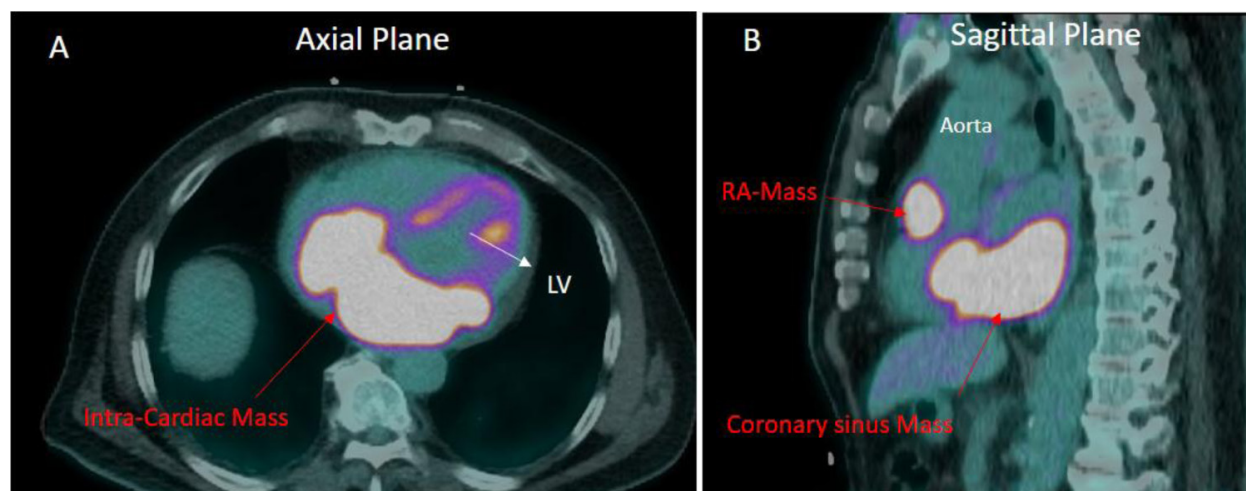
As the lymphoma is chemo sensitive, the patient is currently undergoing rituximab, etoposide, vincristine, cyclophosphamide, and doxorubicin (R-EPOCH) based chemotherapy.



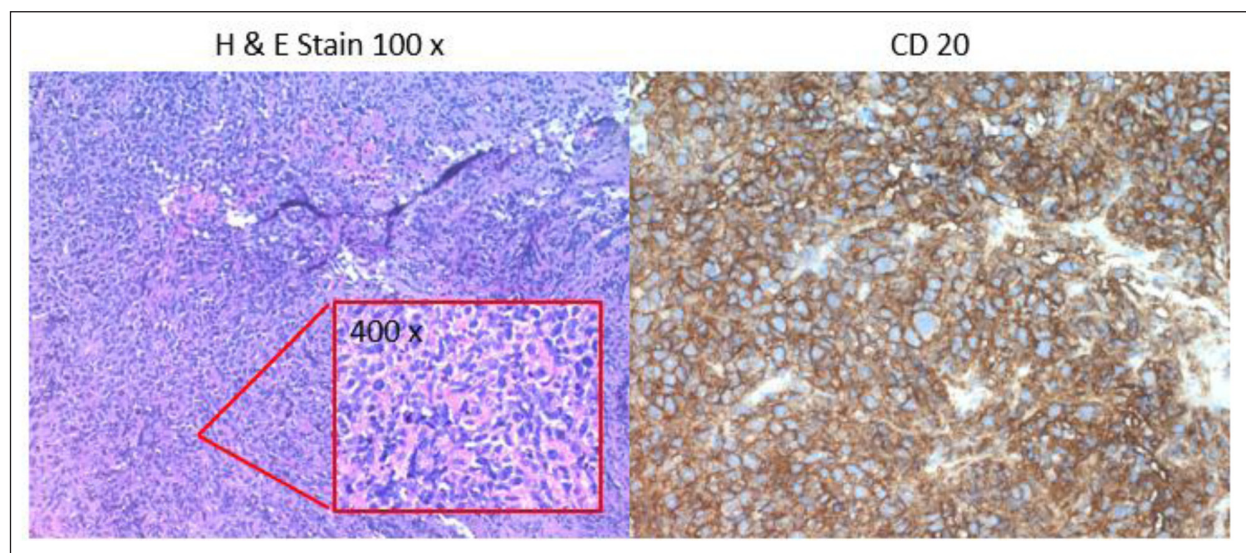
**Figure 1** Left atrial view showing the large mass in the right atrium extending into the coronary sinus.



**Video 1** Axial plane cardiac magnetic resonance image demonstrating the extent of the intracardiac mass, which starts in the right atrium and extends into the coronary sinus. Incidentally, the patient has a large pericardial effusion without tamponade physiology. See also at <https://youtu.be/y9w65OyMKNs>.



**Figure 2** (A) Axial plane image demonstrating intense fluorodeoxyglucose (FDG) uptake in the intracardiac mass (SUV Max 18). (B) Sagittal plane image demonstrating a second intracardiac mass in the wall of the right atrium, which also has intense FDG uptake (SUV Max 12). Intense FDG uptake in both masses is consistent with a malignant tumor. LV: left ventricle; RA: right atrium



**Figure 3** Histologic sections of the atrial mass biopsy showed a diffuse infiltrate of large atypical lymphocytes with areas of necrosis. Immunohistochemical stains showed that the lymphocytes were positive for CD20, BCL6, and MUM-1 and negative for CD10. FISH studies were negative for rearrangements of MYC, BCL2, and BCL6. The overall findings were those of diffuse large B-cell lymphoma, non-germinal center immunophenotype. FISH: fluorescence in situ hybridization

## COMPETING INTERESTS

The authors have no competing interests to declare.

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