



Three-year Follow-up of Unresected Large Anterolateral Papillary Muscle Lipoma

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ABSTRACT

To our knowledge, this is the largest unresected anterolateral papillary muscle lipoma, in an asymptomatic patient, followed up for three years since diagnosis.

TEXT

A 34-year-old female was found to have elevated blood pressure on routine checkup. She was otherwise asymptomatic with no other known comorbidities. Physical exam was unremarkable. Echocardiogram showed a left ventricular cavity mass.

Cardiac MRI (CMR) ordered for further evaluation showed an elongated mass involving the anterolateral papillary muscle with imaging features suggestive of lipoma (Figure 1). There was no significant mitral regurgitation. The patient was referred to cardiothoracic surgery for resection of the mass. However, she refused and opted for close follow up with annual CMR. On the third annual follow-up, there was no significant change in the size of the mass (Figures 2 and 3), nor development of significant mitral regurgitation. She remained asymptomatic.

Intracardiac lipomas are the second most common benign primary tumor of the heart, with varying locations. They are usually asymptomatic and diagnosed incidentally.¹ Reports of lipomas arising from the papillary muscles of the left ventricle are very rare.¹⁻³ To our knowledge, only two cases arising from the anterolateral papillary muscle were reported.^{1,2}

Prestipino et al. reported a lipoma (28 x 20 mm) in the anterolateral papillary muscle in a hemodynamically stable and asymptomatic 42-year-old female, which was not resected, and showed no increase in mass dimension on follow-up MRI a year and a half from diagnosis.² Kim et al. reported a resected posteromedial papillary muscle lipoma (30 x 30 mm) in an asymptomatic 42-year-old male. The mitral valve was replaced with a mechanical prosthesis.³ Koshy et al. resected a 15 x 13 mm lipoma arising from the anterolateral papillary muscle presenting with a transient ischemic episode in a 67-year-old female with malignant melanoma. The mitral valve apparatus was left intact.¹

Figure 1: The mass demonstrates T2W (A) and T1W (B) hyperintense signal. The pre-existing T1W hyperintensity demonstrates signal drop-out on the T1W fat-suppressed images (C). No enhancement identified (D).

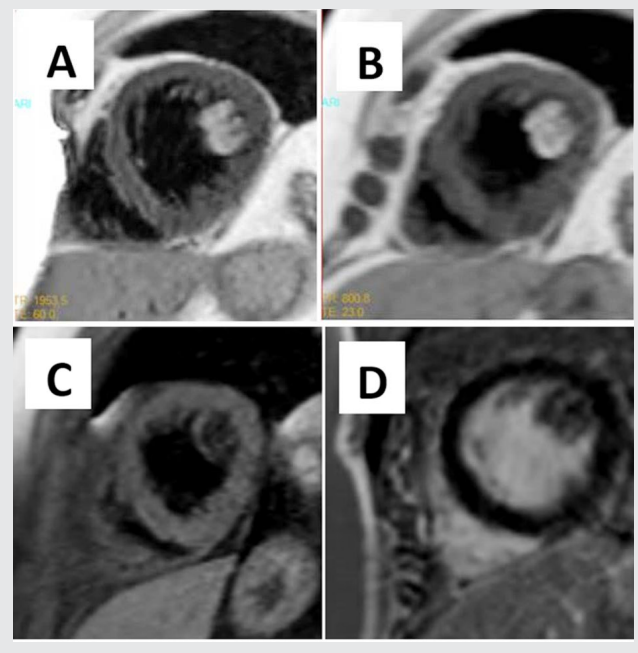


Figure 2: T1W sequences of the elongated predominantly fat-containing at diagnosis (A) measuring 49 x 18 mm, and on the third annual follow up MRI (B) measuring 51 x 16 mm.

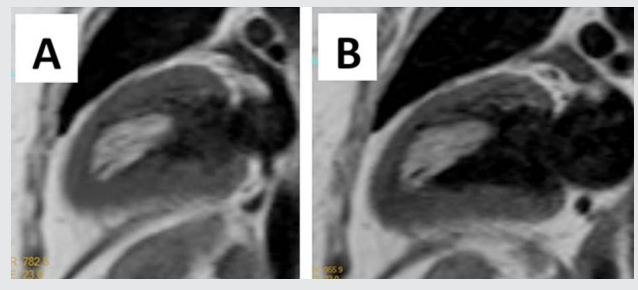
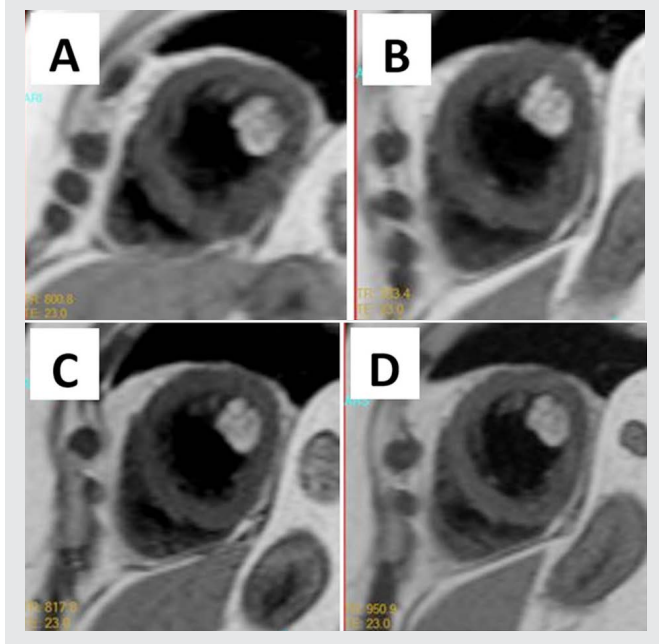


Figure 3: T1W axial sequences at diagnosis (A), and on yearly follow up (B to D).



Biopsy may be inadequate in distinguishing between lipomas and well differentiated liposarcoma.^{4,6} And in one report, a histopathology confirmed benign cardiac lipoma case demonstrated aggressive imaging features.⁶ Because neither imaging nor biopsy can accurately diagnose lipomatous masses, and because sudden death has been reported, surgical resection is advocated in both symptomatic and asymptomatic patients.⁴ Furthermore, early resection is suggested as cardiac lipoma patients that undergo surgical resection have good prognoses, while the prognosis for cardiac liposarcoma has a recurrence rate of approximately 40%.⁴

Our patient is young and healthy, in whom the risk of surgery is low. She refused surgery despite being apprised of the risks of conservative treatment which include overgrowth and infiltration into the myocardium with possible resultant symptoms (e.g. chest pain, valve regurgitation, arrhythmias) and concerns of embolic risk.^{2,3,4,7} To our knowledge, this is the largest unresected antero-lateral papillary muscle lipoma, in an asymptomatic patient, followed up for three years since diagnosis.

Keywords

Cardiac mass, Papillary muscle, Cardiac surgery, Cardiovascular risk

Financial interests:

The authors have nothing to disclose.

REFERENCES

1. Koshy AN, Koshy G, Hardikar AA, Intracardiac lipoma arising from the papillary muscle, *J Card Surg* 26:65-6, 2011.
2. Prestipino F, Cammardella AG, Chello M, Unconventional location for a cardiac lipoma: the anterior papillary muscle, *J Cardiol Cases* 14:71-3, 2016.
3. Kim YS, Lee KH, Choi SJ, Baek WK, Cardiac lipoma arising from left ventricular papillary muscle: Resect or not? *J Thorac Cardiovasc Surg* 156:244-6, 2018.
4. Kong F, Zhang W, Guo Q, Multiple Well Differentiated Cardiac Liposarcoma With a Concomitant Myocardial Lipoma: A Case Report, *Molecular and Clinical Oncology*, 9:617-21, 2018.
5. Goto T, Ohte N, Tani T, Suda H, Kimura G, Malignant Nature of Cardiac Liposarcoma Revealed by Fluorine-18 Fluorodeoxyglucose Positron Emission Tomographic Imaging, *Intern Med* 51:1367-70, 2012.
6. D'Souza J, Shah R, Abbass A, Burt J, Goud A, Dahagam C, Invasive Cardiac Lipoma: A Case Report and Review of Literature, *BMC Cardiovascular Disorders* 17:28, 2017.
7. Shu S, Wang J, Zheng C, From Pathogenesis to Treatment, a Systemic Review of Cardiac Lipoma, *J Cardiothor Surg*, 16:1-7, 2021.