ORIGINAL RESEARCH PAPER
Volume - 13 | Issue - 04 | April - 2024 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A CASE REPORT OF CARDIAC CAPILLARY HEMANGIOMA (RARE, BENIGN, BUT POTENTIALLY SERIOUS)

Cardiology

Dr Sriram Gowtham* Junior Resident (PG), Department of Internal Medicine, Prathima Institute of Medical Sciences. Karimnagar, Telangana, India. *Corresponding Author

Dr. Bomma Sai Surya Teja Junior Resident (PG), Department of Internal Medicine, Prathima Institute of Medical Sciences. Karimnagar, Telangana, India.

Dr. Audi Thanmayi Naidu MD, Assistant Professor of Pathology, Prathima Institute of Medical Science, Karimnagar, Telangana, India.

Dr K Ravinder Reddy MD DNB, Consultant Cardiologist, Professor and HOD, Department of Internal medicine, Prathima Institute of Medical sciences, Karimnagar, Telangana, India.

ABSTRACT

Cardiac hemangiomas comprise 5-10% of the benign cardiac tumors; they are most often discovered incidentally[1]. Herein, we present the case of a 27-year-old female who complained of chest pain for nearly five months and was found to have a 2x1 cm tumor attached to the posterior wall of left ventricle, via echocardiography. Additionally, cardiac MRI was performed and revealed a growth in the proximal left ventricle. On follow-up, the tumor showed an increase in the size, reaching 34x18mm in 6 months. So, surgical resection was performed, and a left capillary hemangioma was confirmed histopathologically. Cardiac hemangiomas are highly rare. They have shown no chamber predilection. With the possibility of occurrence anywhere from pericardium to endocardium. They are most often misdiagnosed for myxoma or papillary fibroelastomas. This incident highlights the importance of considering cardiac hemangioma as a potential differential diagnosis in cases of chest pain to prevent any further complications. To better understand the diagnosis and treatment options for this uncommon case of cardiac hemangioma, a brief review of the literature was conducted.

KEYWORDS

Cardiac Neoplasms, Benign Cardiac Tumors, Left Ventricular Tumor, Myxoma, Fibroelastoma, Hemangioma.

INTRODUCTION

Hemangiomas are the benign proliferation of vascular channels, they are lined by endothelial cells and vary in size from capillary to cavernous. Capillary hemangiomas exhibit a lobulated appearance, formed by an increased number of endothelial cells that create small, capillary-like vessels. Cardiac hemangiomas are rare, constituting only 2–3% of primary cardiac tumors. They can occur anywhere from the pericardium to the endocardium. Echocardiography and magnetic resonance imaging may aid the diagnosis but histopathological examination still remains the gold standard for diagnosis. They don't have a metastatic potential but they can manifest with life-threatening conditions such as arrhythmias, pericardial effusion, hemo pericardium or cardiac tamponade, complete heart block, or even sudden cardiac death. Here we present a case of a young woman with a left ventricular cardiac hemangioma, initially misinterpreted as a myxoma.

Case Report

A 27-year-old female presented with chest pain, pricking type in nature, radiating to the left arm for the past 20 days. She underwent echocardiography as her initial ECG analysis showed no remarkable findings. A left ventricular tumor was found incidentally on the 2D echo. Initially, the tumor was assumed to be a cardiac myxoma, the patient was advised to undergo a cardiac MRI as she refused the TTE. It revealed a well defined intra luminal T1 T2 isointense, STIR hyperintense lesion involving proximal left ventricle just below the left ventricular outflow tract, approximately measuring 20 x 13 mm. It is showing a broad base towards the chordae tendineae of the anterior wall of the mitral valve and adhered to it. On post-contrast, the tumor is not showing any significant enhancement; it is causing dynamic compression (mild to moderate) of the left outflow tract during systole. Features likely represent benign neoplastic etiology, probably fibroelastoma or fibroma (papillary). We offered surgical resection of the tumor as an option for the patient due to the tumor's location, which posed a risk of left outflow tract obstruction and for histological confirmation of the tumor diagnosis. But as the patient refused surgery, she was kept on follow up. On the 6-month follow-up, the tumor showed an increase in the size reaching 34x18 mm posing an increased risk of the left outflow tract obstruction. Therefore, the decision was made to proceed with surgical excision for definitive diagnosis and tumor removal. Intraoperatively, the mass, a single irregular gray-white soft tissue mass measuring 34x18 mm, was found attached to the proximal left ventricle. Resected surface measuring 3.6 x 2 cm (inked). The cut surface was glistening with focal gray-brown areas. The mass was then bisected, and the entire tissue was processed. Surgeons were able to achieve complete resection of the cardiac mass, preserving the integrity of surrounding tissues. Histopathological examination of the excised specimen revealed a polypoidal mass with a proliferation of numerous small thin walled capillaries with a flattened endothelial lining. The stroma between is edematous with hyalinized and fibrinous material. Excised intracardiac mass showed features of a capillary hemangioma. After the operation, the patient had an uneventful recovery without any complications.

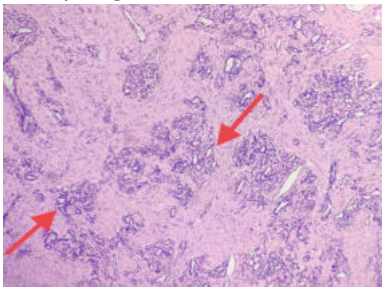

Fig. 1

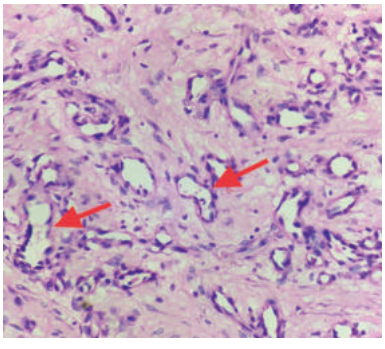

Fig. 2

Fig. 1&2 Microscopic images of the excised mass showing features of a capillary hemangioma.

DISCUSSION

Primary cardiac tumors are rare, with an incidence of approximately 0.02 percent[2]. By comparison, metastatic involvement of the heart is more common and has been reported in one-fifth of the patients dying of cancer[3-5]. Cardiac tumors may present with symptoms, or they might be a surprising finding during evaluations for different medical concerns. Echocardiography, magnetic resonance imaging, and/or computed tomography are invariably helpful in detecting a mass in symptomatic patients. Over 75 percent of primary cardiac tumors are benign[6-11]. In adults, the majority of benign lesions are myxomas accounting for 30-50% of all primary heart tumors; other common benign lesions include papillary fibroelastomas and lipomas. Hemangiomas are rare, nonmalignant vascular tumors less commonly involving the heart compared to the skin. Clinical symptoms vary based on the location and size of the tumor. They are sometimes seen associated with Kasabach-Merritt syndrome. This syndrome is characterized by multiple systemic hemangiomas associated with recurrent thrombocytopenia and consumptive coagulopathy. Although most cardiac hemangiomas are asymptomatic, they may lead to arrhythmias, pericardial effusion, asymptomatic murmur, valvular dysfunction, disruption of intracardiac blood flow, followed by congestive heart failure, hemopericardium or cardiac tamponade, complete heart block or even sudden cardiac death. In addition, these tumors have been implicated in neurological manifestations. They are composed of numerous endothelial-lined thin-walled channels with interspersed fat and fibrous septa. Histologically there are various types of hemangiomas out of which cavernous and capillary hemangiomas are the most frequently reported forms. Recent evidence has shown no chamber predilection for cardiac hemangiomas. Therefore, they can occur anywhere from the pericardium to the endocardium. While transthoracic echocardiography is the gold standard for diagnosis, definitive diagnosis requires microscopic examination of the tissue. Cardiac MRI can sometimes provide additional insight, with T1-weighted images showing intermediate signal intensity and hyperintensity on T2-weighted images representing the high vascular nature of these tumors. Coronary angiography can also aid the diagnosis by showing the vascular blush (blood supply of the tumor). Surgical resection is the treatment of choice for symptomatic lesions or when there is a diagnostic dilemma. The long-term prognosis of patients with surgically treated lesions is usually excellent[12]. Cardiac hemangiomas regressing spontaneously has also been reported[13].

CONCLUSION

Cardiac hemangioma is one of the rare benign, slow-growing tumors affecting the middle-aged and elderly population. Though the final diagnosis still depends on the histopathological examination, echocardiography is still a reliable, noninvasive method aiding in the diagnosis. Surgical resection is the treatment of choice in all the plausible cases with a favorable outcome.

REFERENCES

1. Ml, G., De Christenson Ml, R., Ap, B., Ce, G., & Galvin. (2000). Primary cardiac and pericardial neoplasms: Radiologic-Pathologic correlation. Radiographics, 20(4), 1073–1103. https://doi.org/10.1148/radiographics.20.4.g00jl081073
2. Reynen, K. (1996). Frequency of primary tumors of the heart. The American Journal of Cardiology, 77(1), 107. https://doi.org/10.1016/s0002-9149(97)89149-7
3. McAllister, Hugh A. Jr. M.D.; Fenoglio, John J. Jr. M.D.; Fine, Gerald M.D.. Tumors of the Cardiovascular System. (Atlas of Tumor Pathology, Second Series, Fascicle 15.). The American Journal of Surgical Pathology 4(3):p 306, June 1980.
4. Salcedo, E. E., Cohen, G. I., White, R. D., & Davison, M. B. (1992). Cardiac tumors: Diagnosis and management. Current Problems in Cardiology, 17(2), 77–137. https://doi.org/10.1016/0146-2806(92)90025-j
5. Silvestri, F., Bussani, R., Pavletic, N., & Mannone, T. (1997). Metastases of the heart and pericardium. Giornale italiano di cardiologia, 27(12), 1252–1255.
6. Shi, L., Wu, L., Fang, H., Han, B., Yang, J., Ma, X., Liu, F., Zhang, Y., Xiao, T., Huang, M., & Huang, M. (2017). Identification and clinical course of 166 pediatric cardiac tumors. European journal of pediatrics, 176(2), 253–260. https://doi.org/10. 1007/s00431-016-2833-4
7. Molina, J. E., Edwards, J. E., & Ward, H. B. (1990). Primary cardiac tumors: experience at the University of Minnesota. The Thoracic and cardiovascular surgeon, 38 Suppl 2, 183–191. https://doi.org/10.1055/s-2007-1014064
8. Tazelaar, H. D., Locke, T. J., & McGregor, C. G. (1992). Pathology of surgically excised primary cardiac tumors. Mayo Clinic proceedings, 67(10), 957–965. https://doi.org/10.1016/s0025-6196(12)60926-4
9. Larrieu, A. J., Jamieson, W. R., Tyers, G. F., Burr, L. H., Munro, A. I., Miyagishima, R. T., Gerein, A. N., & Allen, P. (1982). Primary cardiac tumors: experience with 25 cases. The Journal of thoracic and cardiovascular surgery, 83(3), 339–348.
10. Odim, J., Reehal, V., Laks, H., Mehta, U., & Fishbein, M. C. (2003). Surgical pathology of cardiac tumors. Two decades at an urban institution. Cardiovascular pathology : the official journal of the Society for Cardiovascular Pathology, 12(5), 267–270. https://doi.org/10.1016/s1054-8807(03)00087-5
11. Kamiya, H., Yasuda, T., Nagamine, H., Sakakibara, N., Nishida, S., Kawasuji, M., & Watanabe, G. (2001). Surgical treatment of primary cardiac tumors: 28 years' experience in Kanazawa University Hospital. Japanese circulation journal, 65(4), 315–319. https://doi.org/10.1253/jcj.65.315
12. Brizard, C., Latremouille, C., Jebara, V. A., Acar, C., Fabiani, J. N., Deloche, A., & Carpentier, A. F. (1993). Cardiac hemangiomas. The Annals of thoracic surgery, 56(2), 390–394. https://doi.org/10.1016/0003-4975(93)91193-q
13. Palmer, T. E., Tresch, D. D., & Bonchek, L. I. (1986). Spontaneous resolution of a large, cavernous hemangioma of the heart. The American journal of cardiology, 58(1), 184–185. https://doi.org/10.1016/0002-9149(86)90273-0