The 33 months progression of an atrial myxoma

Karel T.S. Valenta, Sabrina S. Sam, Ethan A. Burns, Nan Ni

ABSTRACT

Introduction: Atrial myxomas are the most common benign primary cardiac tumor. Left atrial myxomas are often associated with symptoms of mitral valve obstruction and embolization as well as constitutional symptoms. Symptoms commonly occur once the tumor has grown greater than five centimeters in diameter.

Case Report: A 63-year-old female presented with a mass found on transesophageal echocardiogram. The mass measured 1.8x1.4 cm and was characteristic of an atrial myxoma. The tumor was subsequently followed for 33 months before resection.

Conclusion: Current recommendations are immediate surgical resection of cardiac myxoma, regardless of size, due to the risk of embolic events. This case is unique as it allows us to obtain a tumor growth rate. We believe it is important to further investigate atrial myxoma growth rates to determine at which size embolic events become imminent. With greater understanding, medical management may play a larger role in high surgical risk patients.
ABSTRACT

Introduction: Atrial myxomas are the most common benign primary cardiac tumor. Left atrial myxomas are often associated with symptoms of mitral valve obstruction and embolization as well as constitutional symptoms. Symptoms commonly occur once the tumor has grown greater than five centimeters in diameter. Case Report: A 63-year-old female presented with a mass found on transesophageal echocardiogram. The mass measured 1.8x1.4 cm and was characteristic of an atrial myxoma. The tumor was subsequently followed for 33 months before resection. Conclusion: Current recommendations are immediate surgical resection of cardiac myxoma, regardless of size, due to the risk of embolic events. This case is unique as it allows us to obtain a tumor growth rate. We believe it is important to further investigate atrial myxoma growth rates to determine at which size embolic events become imminent. With greater understanding, medical management may play a larger role in high surgical risk patients.

Keywords: Atrial myxoma, Cardiac tumor, Growth rates of atrial myxoma
CASE REPORT

A 63-year-old female presented with delirium and dyspnea following a lumbar spinal fusion. A transesophageal echocardiogram (TEE) revealed an incidental 1.8x1.4 cm left intra-atrial mass with rounded and smooth borders attached to the interatrial septum via a short stalk, findings suggestive of an atrial myxoma. The left atrium was mildly enlarged, and the mass did not appear to contact the mitral valve. Left ventricular function was normal with an estimated ejection fraction of 60%. No thrombus formation was seen in the left atrium.

Medical history of patient was significant for hypertension, diabetes, asthma, obesity, chronic exertional dyspnea, stage II diastolic dysfunction and a past history of breast cancer.

The initial treatment plan was surgical removal of the tumor upon recovery from her spinal surgery. However, the patient declined treatment and failed to follow-up for serial TEE’s. Two years later, she returned complaining of episodic chest tightness precipitated by anxiety as well as increased dyspnea upon exertion. Repeat TEE revealed the atrial mass had enlarged to 2.2x2.0 cm in size (Figure 1).

Surgical excision was recommended due to the enlarging nature of the mass but was delayed due to extenuating circumstances. Three months later, a 3.6 cm cubed mass was removed from the left atrium. Part of the interatrial septum was removed and autologous pericardium was used to replace the resected portion of the atrial wall. The preoperative TEE measured the size at 2.5x2.5 cm. Pathology confirmed the diagnosis of myxoma with classic myxoid matrix and hemosiderin laden macrophages.

Postoperatively our patient developed confusion and atrial fibrillation. Her head computed tomography (CT) scan was unremarkable. She was successfully converted to sinus rhythm with beta blockers and amiodarone and her mental status improved with lower doses of narcotics. When seen for follow-up in outpatient clinic two weeks later she was recovering well.

DISCUSSION

Few studies have been conducted to assess myxoma growth rates, primarily because tumor excision is done as soon as possible to avoid deleterious cardiovascular, embolic and neurological effects. High variability in the growth rate of atrial myxomas exists based upon limited case reports. One case showed a growth rate of 0.20 cm/month [7]. A second case followed an 89-year-old male over 79 months. His myxoma grew at a rate of 0.20 cm squared per year [8]. Another study followed a 65-year-old patient with a tumor growth rate of 0.49 cm/month [9].

Our patient is unique because we were able to demonstrate the growth of her tumor over the course of 33 months. Over the first 30 months, there was an average growth rate of 0.020 cm/month in one dimension and 0.013 cm/month in another dimension. Between months 30 to 33, the average growth rate was 0.17 cm/month in one dimension and 0.10 cm/month in another dimension (Figure 2). The growth rate can be unpredictable as revealed by the increased growth between months 30 and 33 compared to the first 30 months (Figure 2). Protocols for imaging should be developed and data should be obtained at regular intervals to determine the risk of embolic events at various sizes and to ensure stable cardiovascular function.

CONCLUSION

This case provides us with a growth rate for a rare tumor. We believe the growth rate of atrial myxomas should be studied further to determine the risks and benefits associated with delaying surgical removal. We propose that structured monitoring of tumor progression should be conducted in patients who are poor surgical candidates or who refuse surgical excision of atrial myxomas. This may help establish an average tumor growth rate and prognostic information. With a greater understanding of tumor progression, medical
management may play a greater role in high surgical risk patients.

------------------

Acknowledgements
We would like to thank Dr. Karen Scott for her critical review of the manuscript.

Author Contributions
Karel T. S. Valenta – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published
Sabrina Sam – Substantial contributions to conception and design, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published
Ethan Burns – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published
Nan Ni – Acquisition of data, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor
The corresponding author is the guarantor of submission.

Conflict of Interest
Authors declare no conflict of interest.

Copyright
© 2016 Karel T. S. Valenta et al. This article is distributed under the terms of Creative Commons Attribution License which permits unrestricted use, distribution and reproduction in any medium provided the original author(s) and original publisher are properly credited. Please see the copyright policy on the journal website for more information.

REFERENCES

Edorium Journals: An introduction

Edorium Journals Team

About Edorium Journals
Edorium Journals is a publisher of high-quality, open access, international scholarly journals covering subjects in basic sciences and clinical specialties and subspecialties.

Invitation for article submission
We sincerely invite you to submit your valuable research for publication to Edorium Journals.

But why should you publish with Edorium Journals?
In less than 10 words - we give you what no one does.

Vision of being the best
We have the vision of making our journals the best and the most authoritative journals in their respective specialties. We are working towards this goal every day of every week of every month of every year.

Exceptional services
We care for you, your work and your time. Our efficient, personalized and courteous services are a testimony to this.

Editorial Review
All manuscripts submitted to Edorium Journals undergo pre-processing review, first editorial review, peer review, second editorial review and finally third editorial review.

Peer Review
All manuscripts submitted to Edorium Journals undergo anonymous, double-blind, external peer review.

Early View version
Early View version of your manuscript will be published in the journal within 72 hours of final acceptance.

Manuscript status
From submission to publication of your article you will get regular updates (minimum six times) about status of your manuscripts directly in your email.

Our Commitment

Six weeks
You will get first decision on your manuscript within six weeks (42 days) of submission. If we fail to honor this by even one day, we will publish your manuscript free of charge.*

Four weeks
After we receive page proofs, your manuscript will be published in the journal within four weeks (31 days). If we fail to honor this by even one day, we will publish your manuscript free of charge and refund you the full article publication charges you paid for your manuscript.*

Favored Author program
One email is all it takes to become our favored author. You will not only get fee waivers but also get information and insights about scholarly publishing.

Institutional Membership program
Join our Institutional Memberships program and help scholars from your institute make their research accessible to all and save thousands of dollars in fees make their research accessible to all.

Our presence
We have some of the best designed publication formats. Our websites are very user friendly and enable you to do your work very easily with no hassle.

Something more...
We request you to have a look at our website to know more about us and our services.

* Terms and condition apply. Please see Edorium Journals website for more information.

We welcome you to interact with us, share with us, join us and of course publish with us.

CONNECT WITH US

Edorium Journals: On Web
Browse Journals

This page is not a part of the published article. This page is an introduction to Edorium Journals and the publication services.