Commentary: When the hoofbeats are a zebra

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Central Message

Cardiac tumors are rare, and right-sided large tumors more are commonly malignant. Knowing the treatment approach to large right-sided cardiac masses is crucial.

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In this issue of the *Journal*, Hui and colleagues¹ present a fascinating case of a large spontaneous right atrial hematoma. A 51-year-old apparently healthy, symptom-free man had a normal chest radiograph the year before the discovery of this mass, which was apparent on a chest radiograph 1 year later. Hui and colleagues¹ documented this with echocardiography as well as computerized tomography showing a large mass with partial obstruction of the superior vena caval orifice. Surgical resection was successful, and the patient made an uneventful recovery. I congratulate Hui and colleagues¹ on this outcome.

This case is interesting from several perspectives. The first is that cardiac masses and tumors are uncommon and generally of interest to cardiac surgeons. About three-quarters of primary cardiac tumors are benign, and of the quarter that are malignant, about three-quarters are sarcoma.² Although primary benign tumors are more common, tumors on the right side of the heart carry an increased risk of being malignant.³ This makes differentiating benign from malignant masses even more critical for right-sided masses. How we do this is of interest to cardiac surgeons. We find cardiac magnetic resonance imaging particularly helpful, because it can establish the presence or absence of perfusion in most cases.⁴ A cardiac magnetic resonance imaging study in this case might or might not have shown perfusion, because hematomas have no perfusing vessels, but there did appear to be some sinuses of perfusion in the mass. If clinical information and imaging suggest that this is a potential tumor, then the treatment pathway should also be of interest to cardiac surgeons. Not all large right heart masses are best treated by surgical resection. Intracavitary clot is usually approached with anticoagulation. In this atrial wall hematoma, the likely outcome of anticoagulation is not known from the surgical literature. If this had turned out to be a tumor, surgeons would need to realize that not all right-heart tumors are best treated with resection. Large right heart tumors are not uncommonly lymphomas, which are best treated by chemotherapy alone.⁵ We have even seen large tumors on the right side, such as

plasmacytoma, that do not require surgery.⁶ Another important aspect of large right-sided cardiac masses is the possibility of primary cardiac sarcoma. We have shown that with primary cardiac sarcoma, neoadjuvant chemotherapy doubled our ability to achieve R0 resection and survival.⁷ Our approach to large-right sided cardiac tumors is to get a biopsy-proven histologic diagnosis and plan therapy on the basis of this finding.

I appreciate the opportunity to read and review this interesting case report. Sometimes the hoofbeats bearing down on you are horses, but occasionally they are zebras. Surgeons need to know how to handle both. I appreciate the addition to our knowledge base by Hui and colleagues¹ and again congratulate them on a successful outcome.

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