M. Reardon, M.D.

CARDIAC TUMOR ISSUE OVERVIEW

Michael J. Reardon, M.D.
Methodist DeBakey Heart & Vascular Center, Houston, Texas

I would like to thank Dr. Winters for allowing me to serve as organizer of this issue of the *Methodist DeBakey Cardiovascular Journal* on primary tumors of the heart. Cardiac tumors are classified as primary (tumors that arise in the heart itself) secondary or metastatic tumors. Secondary tumors are 40 to 100 times more common than primary tumors of the heart. Metastatic tumors of the heart are generally not considered candidates for surgical resection, although there are rare cases in which resection with reasonable risk and good long-term outcome can be achieved.[1] These will not be discussed in this issue of the journal.

Primary tumors of the heart arise from cellular elements of the heart itself and are broadly divided into benign and malignant. In our experience at the Methodist DeBakey Heart & Vascular Center, we have found 80% of our tumors to be benign and 20% to be malignant.[2] Almost all of our malignant cases are sarcoma due to our referral network for these cases, but a review of the literature shows that 75% are sarcoma and the rest are a variety of tumors, with lymphoma leading the pack. Benign tumors tend, to have an excellent outcome at a low surgical risk except for certain rare and complex benign lesions such as cardiac paraganglioma. The most common benign tumors — myxoma (>50%), papillary fibroelastoma and lipoma — all can be cured with complete surgical resection and low risk. Our current interest in benign tumors involves an active interest in better diagnosis and minimally invasive approaches to these tumors. Cardiac paragangliomas are rare, highly vascular, usually very large and technically difficult to treat surgically. Our group is currently reviewing our cardiac paraganglioma work to define surgical approaches best suited for this difficult problem.

The use of MRI for imaging cardiac tumors will be discussed by Dr. Dipan Shah of the Methodist DeBakey Heart & Vascular Center, and echocardiography for the imaging of cardiac tumors will be discussed by Dr. Juan Carlos Plana from The University of Texas MD Anderson Cancer Center. From the cardiovascular surgery group at the Methodist DeBakey Heart & Vascular Center, Dr. Brian Bruckner will discuss our experience with benign cardiac tumors in detail, and Dr. Mahesh Ramchandani will discuss our inroads in the use of minimally invasive approaches to treat benign cardiac tumors.

Malignant primary tumors of the heart are rare. I developed a strong interest in cardiac tumors while serving as a cardiothoracic resident with Dr. Denton Cooley. Dr. Cooley was treating a patient sent from Italy with a large left atrial paraganglioma. Surgery had been attempted in Italy and was unsuccessful due to the size, location and vascularity of the tumor. To solve the issue of poor exposure of the left atrium that contains a large tumor, Dr. Cooley explanted the heart, resected the tumor, and rebuilt the left atrium without the heart in the way. He then reimplanted the heart and introduced cardiac autotransplant as a technique for cardiac tumors, igniting my lifelong interest in cardiac tumors and especially malignant primary cardiac tumors.[3]

Primary cardiac sarcoma treated without surgery has about a 10% survival at 1 year. The patients we see with primary cardiac sarcoma are often young, with families that they are trying to raise. They have often been given this dismal prognosis and told that nothing realistic can be done. Although this remains a difficult and deadly disease, significant progress has been made; our 2-year survival for cardiac sarcoma is now 61%, and we have patients alive at 10 years. The goal of our group as expressed in this issue of the *Methodist DeBakey Cardiovascular Journal* is to define the proper classification system, define treatment protocols, and define and enhance survival of these patients.

Dr. Shanda Blackmon of our thoracic surgery group at The Methodist Hospital will join me in exploring our approach and results in treating pulmonary artery sarcoma, and Dr. David Rice of The University of Texas MD Anderson Cancer Center will do the same with regard to left heart sarcoma. Dr. Ara Vaporciyan of

The University of Texas MD Anderson Cancer Center will join me in discussing our treatment of right heart sarcoma. Finally, Dr. Bob Benjamin, the head of the Department of Sarcoma Medical Oncology at The University of Texas MD Anderson Cancer Center, will discuss future direction in the biologic treatment of cardiac sarcoma. Our approach to these difficult tumors has been to cast a wide net in bringing together a multidisciplinary team within and across institutions to tackle this formidable problem for the benefit of our patients. This collaboration has resulted in numerous publications,[2-23] 2 IRB protocols at The Methodist Hospital, and an international registry. Our entire group looks to the future with great hope of continuing progress in our battle to defeat this disease.

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