

# Dual Cardiac Tumors: Understanding the Effects of Angiosarcoma on Hemangioma Patients

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### DESCRIPTION

The human heart, with its complex network of blood vessels, is vulnerable to a spectrum of diseases, ranging from benign vascular tumors like hemangioma to aggressive malignancies such as cardiac angiosarcoma. When these two conditions coexist, they present unique challenges in diagnosis, treatment, and prognosis.

## Understanding cardiac angiosarcoma and hemangioma

Cardiac angiosarcoma is a rare and aggressive malignancy originating from the endothelial cells lining the blood vessels within the heart. It represents for only a small fraction of all primary cardiac tumors but carries a prognosis due to its propensity for rapid growth, early metastasis, and limited treatment options. In contrast, hemangiomas are benign vascular tumors characterized by clusters of abnormal blood vessels. While typically harmless, hemangiomas can pose complications when located in critical anatomical sites, including the heart.

#### **Diagnostic challenges**

The diagnosis of cardiac angiosarcoma in the presence of hemangioma presents a formidable challenge to clinicians. Both conditions can manifest with similar symptoms, such as chest pain, dyspnea, and palpitations, making it challenging to distinguish between benign and malignant cardiac lesions based solely on clinical presentation. Advanced imaging modalities, including echocardiography, cardiac MRI, and CT angiography, play potential roles in characterizing tumor morphology, assessing hemodynamic consequences, and guiding biopsy procedures. However, the interpretation of imaging findings can be distracted by the coexistence of hemangioma, necessitating histopathological confirmation through biopsy or surgical resection.

#### Treatment considerations

Surgical resection remains the fundamental of therapy for localized cardiac angiosarcoma, aiming to achieve complete tumor excision whenever feasible. However, the presence of concurrent hemangioma may complicate surgical planning, particularly if the benign tumor invades upon vital cardiac structures or exhibits infiltrative growth patterns. Moreover, the efficacy of systemic therapies, including chemotherapy, radiation therapy, and targeted agents, in the context of coexisting hemangioma remains uncertain, as these benign lesions may exhibit unpredictable responses to cytotoxic or molecularly targeted treatments.

#### **Prognostic implications**

Cardiac angiosarcoma has a poor prognosis, with a median survival ranging from several months to a few years, primarily due to delayed diagnosis, high rates of metastasis, and limited treatment options. The presence of hemangioma may further influence disease progression and treatment outcomes, impacting survival rates and quality of life for affected patients. Long-term monitoring and surveillance are essential for detecting disease recurrence, monitoring treatment response, and managing treatment-related complications in this vulnerable patient population.

### Clinical management and multidisciplinary collaboration

Managing patients with cardiac angiosarcoma and hemangioma requires a multidisciplinary approach, involving cardiologists, oncologists, radiologists, and surgeons. Close collaboration among specialists is essential for optimizing diagnostic strategies, altering the treatment plans, and providing comprehensive care throughout the disease trajectory. Furthermore, ongoing research try to aim at elucidating the underlying molecular mechanisms driving tumor development and progression are

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potential for advancing therapeutic strategies and improving patient outcomes.

The coexistence of cardiac angiosarcoma and hemangioma presents a complex clinical scenario filled with diagnostic, therapeutic, and prognostic challenges. Despite advances in medical imaging, surgical techniques, and systemic therapies, the management of these rare cardiac tumors remains inherently difficult. The efforts to enhance early detection, refine treatment algorithms, and understand the molecular support of tumor biology are most important for improving outcomes and resulting expectations for affected patients. Through the multiple collaboration, innovative researches and compassionate patient care, we can navigate the complexities of cardiac angiosarcoma in patients with hemangioma, ultimately striving towards better understanding, treatment, and ultimately, improved outcomes for these individuals.