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**EVOLIUCINĖ MEDICINA:
ŽMOGAUS RAIDOS PERSPEKTYVOS IR SVEIKATA
BESIKEIČIANČIOJE APLINKOJE**

**EVOLUTIONARY MEDICINE:
PERSPECTIVES ON HUMAN DEVELOPMENT AND HEALTH
CONSEQUENCES IN A CHANGING ENVIRONMENT**

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CARDIAC TUMOURS: CHALLENGES IN DIAGNOSIS AND MANAGEMENT

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Background and Aim: Cardiac tumours are rare but clinically important because even benign lesions may cause haemodynamic obstruction, arrhythmias, or systemic embolisation, whereas malignant tumours are usually aggressive and carry a poor prognosis. This study aimed to analyse the diagnostic and therapeutic challenges of cardiac tumours and, based on recent evidence, identify practical evidence-based management directions relevant to Lithuania and Europe.

Materials and Methods: A structured narrative literature review was performed. Searches were conducted in PubMed/MEDLINE, Web of Science Core Collection, and Scopus. Peer-reviewed articles published in 2020–2026 and European society recommendations were analysed. Data on the epidemiology and clinical presentation of primary and metastatic cardiac tumours, as well as on the diagnostic value of echocardiography, cardiac magnetic resonance imaging (CMR), computed tomography, and fluorine-18 fluorodeoxyglucose positron emission tomography/computed tomography (18F-FDG PET/CT), treatment outcomes, prognosis, and multidisciplinary decision-making were reviewed.

Results: The main challenges arise from the rarity of cardiac tumours, non-specific symptoms, and difficult differential diagnosis, particularly when distinguishing tumours from thrombi, vegetations, or anatomical variants. Echocardiography remains the first-line imaging modality; however, CMR provides the highest value for tissue characterisation, with reported accuracy of up to 98.4% in suspected cardiac tumours. 18F-FDG PET/CT significantly improves differentiation between benign and malignant masses, with pooled sensitivity of 89.2% and specificity of 82.8%. Surgical treatment of benign tumours, especially myxomas, is associated with favourable prognosis, low early mortality, and rare recurrence, whereas primary cardiac sarcomas are characterised by delayed diagnosis and poor outcomes.

Conclusions: The diagnosis of cardiac tumours should rely on a sequential multimodality imaging approach, early assessment of malignancy risk, and careful differentiation from pseudotumours. Benign tumours require timely surgical management, whereas malignant tumours should be treated in specialised centres using multidisciplinary, individualised strategies.

Keywords: cardiac magnetic resonance imaging, cardiac sarcoma, cardiac surgery, cardiac tumours, echocardiography