Cardiac magnetic resonance imaging in separation of athlete's heart from cardiomyopathy

Viktor Peršić*,
Vesna Pehar Pejčinović,
Damir Raljević,
Marko Boban

Thalassotherapia Opatija – Clinic for treatment, rehabilitation and prevention of cardiovascular disease, Opatija, Croatia

KEYWORDS: cardiac magnetic resonance imaging, sudden cardiac death syndrome, hypertrophic cardiomyopathy, arrhythmogenic right ventricular dysplasia, anomalies of coronary arteries, inherited channelopathy syndromes.

CITATION: *Cardiol Croat.* 2015;10(9-10):217. | **DOI:** <http://dx.doi.org/10.15836/ccar.2015.217>

***ADDRESS FOR CORRESPONDENCE:** Viktor Peršić, Thalassotherapia Opatija, M. Tita 188/1, HR-51410 Opatija, Croatia. / Phone: +385-51-202-728 / E-mail: viktor.persic@ri.t-com.hr

ORCID: Viktor Peršić, <http://orcid.org/0000-0003-4473-5431> • Vesna Pehar Pejčinović, <http://orcid.org/0000-0002-8921-7999> • Damir Raljević, <http://orcid.org/0000-0001-9743-9201> • Marko Boban, <http://orcid.org/0000-0002-6129-575X>

Sudden cardiac death syndrome is rare in competitive athletes, however, when it occurs, it is a serious event, with broad social implications. Among the most common reasons for sudden cardiac death during or after vigorous physical activities are several conditions like; hypertrophic cardiomyopathy, arrhythmogenic right ventricular dysplasia, anomalies of coronary arteries, inherited channelopathy syndromes, and others, which occur less frequently. Several hundred thousands of young individuals are enrolled in competitive sports or repeated vigorous physical activities, so the development of more efficient systems for prevention of unwanted cardiovascular complications is becoming a major health and social objective. Due to of excellent temporal and spatial resolution, structural and functional analysis, tissue characterization, as well as precise structural analyzes of right ventricle, or other anatomic structure that is not easily imaged by echocardiography; cardiac magnetic resonance is a valuable and reproducible diagnostic tool for distinction of athlete's heart from cardiomyopathy.¹⁻³

RECEIVED:
July 24, 2015
ACCEPTED:
September 17, 2015

LITERATURE

1. Semsarian C, Sweeting J, Ackerman MJ. Sudden cardiac death in athletes. *Br J Sports Med.* 2015;49(15):1017-23. **DOI:** <http://dx.doi.org/10.1136/bjsports-2015-11218rep>
2. La Gerche A, Baggish AL, Knuuti J, Prior DL, Sharma S, Heidebuchel H, et al. Cardiac imaging and stress testing asymptomatic athletes to identify those at risk of sudden cardiac death. *JACC Cardiovasc Imaging.* 2013;6(9):993-1007. **DOI:** <http://dx.doi.org/10.1016/j.jcmg.2013.06.003>
3. Mangold S, Kramer U, Franzen E, Erz G, Bretschneider C, Seeger A, et al. Detection of cardiovascular disease in elite athletes using cardiac magnetic resonance imaging. *Rofo.* 2013;185(12):1167-74. **DOI:** <http://dx.doi.org/10.1055/s-0033-1350130>