

Omjer sistoličkog volumena u terminalnoj dijastoli s površinom lijevog atrija predstavlja dobar dijagnostički pokazatelj sistoličke disfunkcije kod bolesnika s neishemijskom kardiomiopatijom

Ratio of end systolic volume over left atrial area is a respectable yardstick of systolic impairment in non-ischemic cardiomyopathies

Marko Boban^{1,2*}

¹Klinički bolnički centar Sestre milosrdnice, Zagreb, Hrvatska

²Sveučilište Josipa Jurja Strossmayera u Osijeku, Fakultet za dentalnu medicinu i zdravstvo Osijek, Osijek, Hrvatska

¹University Hospital Centre "Sestre milosrdnice", Zagreb, Croatia

²Josip Juraj Strossmayer University of Osijek, Faculty of Dental Medicine and Health Osijek, Osijek, Croatia

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***ADDRESS FOR CORRESPONDENCE:** Marko Boban, Klinički bolnički centar Sestre milosrdnice, Vinogradska 29, HR-10000 Zagreb, Croatia. / Phone: +385-1-3787-111 / E-mail: marcoboban@yahoo.com

ORCID: Marko Boban, <https://orcid.org/0000-0002-6129-575X>

Uvod: Poremećaj sistoličke funkcije i pojava kasnog bojanja gadolinijem (LGE) dobro su poznati negativni prognostički čimbenici kod neishemijskih kardiomiopatija (NKMP).^{1,2} Cilj ove studije bio je analizirati povezanost pojedinih volumetrijskih parametara i površine lijevog atrija (LAA) sa sistoličkom disfunkcijom lijeve klijetke te pozitivnom imbibicijom LGE kod bolesnika s neishemijskim kardiomiopatijama.

Bolesnici i metode: Uzastopni slučajevi oboljelih od NKMP i zdravih kontrola uključeni su iz kompjutorizirane baze podataka magnetske rezonance srca, u razdoblju od 2,6 godina. Odnosi volumetrijskih parametara i LAA izračunati su za svakog ispitanika.

Rezultati: Uključeno je 210 ispitanika, prosječne dobi 49,6±16,9 godina; odnos muškaraca prema ženama 132 (62,9%) naspram 78 (37,1%). LGE je bio u značajnoj korelaciji s poremećajem sistoličke funkcije (Rho CC=0.338; p <0,001), a također i linearni podtip imbibicije (Rho CC=0.430; p <0,001). Za detekciju sistoličke disfunkcije kritična vrijednost ESV/LAA ≥2,6 imala je površinu ispod krivulje (AUC) 0,910 (0,862-0,945), p <0,001; SV/LAA imala je AUC=0,814 (0,754-0,864), p <0,001 dok je EDV/LAA imao AUC 0,653 (0,584-0,718), p <0,001. ESV/LAA značajno je korelirao sa sistoličkom disfunkcijom lijeve klijetke (Rho-correlation-coefficient: 0.604; p <0,001) i pojavom linearnog tipa imbibicije LGE (Rho-CC=0.286; p <0,001).

Zaključak: ESV/LAA je bio najučinkovitiji od studiranih dijagnostičkih pokazatelja za otkrivanje sistoličke disfunkcije i pojavu kasnog bojanja gadolinijem. Potrebna su dodatna prospektivna istraživanja prognostičke točnosti srčanog remodeliranja kod bolesnika s NKMP.

Background: Impairment of systolic function and late gadolinium enhancement (LGE) are well known negative prognostic markers in non-ischemic cardiomyopathies (NICMPs).^{1,2} The aim of our study was to analyze power of connection existing between individual volumetric parameters over left atrial area and systolic dysfunction or existence of LGE in patients with non-ischemic cardiomyopathy and healthy controls.

Patients and Methods: Consecutive cases of NICMPs and controls were included from computerized data base of cardiac magnetic resonance exams for 2.6-year period. Ratios made from volumetric parameters over left atrial area (LAA) were calculated.

Results: Study included 210 cases referred to cardiac magnetic resonance (CMR); age was 49.6±16.9 years (range 15.2-79.3), male to female ratio 132 (62.9%) vs 78 (37.1%). LGE significantly correlated with impairment of systolic function (Rho CC=0.338; p<0.001), and linear-LGE as well (Rho CC=0.430; p<0.001). For detection of systolic impairment, a critical value of End-systolic-volume(ESV)/LAA of ≥2.6 had area under curve (AUC) 0.910 (0.862-0.945), p<0.001; stroke-volume(SV)/LAA had AUC=0.814 (0.754-0.864), p<0.001 and end-diastolic-volume (EDV)/LAA had AUC 0.653 (0.584-0.718); p<0.001. ESV/LAA correlated with systolic dysfunction (Rho-correlation-coefficient:0.604; p<0.001) and existence of linear midventricular LGE stripe (Rho-CC=0.286; p<0.001).

Conclusions: ESV/LAA was the most effective of studied parameters for detection of systolic dysfunction and also connected with existence of LGE. Prospective validation of cardiac remodeling for prognostic significance would be needed in future studies.

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LITERATURE

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