Uloga magnetne rezonancije srca kod bolesnice s infarktom miokarda bez angiografski dokazane koronarne bolesti srca

The role of cardiovascular magnetic resonance imaging in patient with myocardial infarction and unobstructed coronary arteries

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UVOD: Infarkt miokarda bez opstruktivne koronarne bolesti srca (KBS) heterogeni je poremećaj s različitim mehanizmom nastanka te je najčešće uzrokovan rupturom plaka. Može se javiti i kod bolesnika bez rupture plaka i tada je uzrokovan vazospazmom, embolizmom, disekcijom ili okluzijom ogranka. Magnetna rezonancija srca jedna je od najtočnijih neinvazivnih slikovnih metoda u procjeni ireverzibilnog oštećenja miokarda.

PRIKAZ SLUČAJA: Predstavljamo slučaj 57-godišnje bolesnice s pozitivnom obiteljskom anamnezom KBS i dijagnosticiranim suspektim mioperikarditisom, koja dolazi u našu ustanovu radi drugog mišljenja. Bolesnica je unatrag devet mjeseci liječena u vanjskoj ustanovi radi bolova u prsima, povišenih vrijednosti troponina I i u EKG-u zabilježene konkvavne elevacije ST-segmenta u inferiornim odvodima. Nalaz invazivne koronarne angiografije bio je uredan. Imunološki i serološki testovi na miokarditis bili su negativni. Ultrazvuk srca pokazao je blagu hipokinezu srednjeg dijela inferiorne stijenke uz ejekcijsku frakciju lijeve klijetke od 55%. Magnetnom rezonancijom srca evidentira se obrazac transmuralne fibroze u području srednjeg dijela inferoseptalnog segmenta. MSCT koronarografijom ne nađe se znakova KBS. Bolesnici je preporučena antiaterosklerotska i antiagregacijska terapija.

ZAKLJUČAK: Vazospazam i embolizacija su mogući mehanizmi ishemičnog LGE (*late gadolinium enhancement*) obrazca. Magnetna rezonancija srca i MSCT koronarografija mogu imati značajnu ulogu u dijagnosticiranju infarkta miokarda bez opstruktivne KBS. Poznato je da intravaskularni ultrazvuk (IVUS) detektira više kalcifikacija nego MSCT, međutim još uvijek nije u široj primjeni. Nadalje, IVUS je invazivna metoda za razliku od MSCT-a i MR koji kao neinvazivne slikovne metode imaju velike mogućnosti u detektiranju rane KBS.

INTRODUCTION: Myocardial infarction with unobstructed coronary arteries is a heterogeneous disorder with different mechanisms which may be caused by plaque rupture, but also occurs in patients without plaque rupture. These cases may be caused by vasospasm, embolism, dissection, or branch occlusion. Cardiovascular magnetic resonance (CMR) is the most accurate noninvasive imaging technique for diagnosis of irreversible myocardial damage.

CASE REPORT: We present a case of a 57-years-old female patient, with positive family history of coronary artery disease (CAD), referred to our hospital for second opinion after had been diagnosed with suspected myopericarditis. Nine months ago she presented in another hospital with chest pain, elevated troponin I levels and concave ST-segment elevation in the inferior chest leads. The patient had completely normal coronary angiography. Immunology and serology tests for myocarditis resulted negative. The transthoracic echocardiography revealed mild hypokinesia of mid inferior wall and ejection fraction of 55%. CMR revealed transmural fibrosis in mid inferoseptal segment. Furthermore, MSCT coronary angiography revealed normal coronary arteries without atherosclerotic lesions and negative coronary calcium scoring. We presumed that our findings should be a consequence of myocardial infarction without angiographically obstructive CAD. The patient was dismissed with antiplatelet and antiatherosclerotic medications.

CONCLUSIONS: Vasospasm and embolism are possible mechanisms of ischemic LGE (*late gadolinium enhancement*) without plaque disruption. CMR and MSCT can be useful in diagnosing myocardial infarction without coronary artery obstruction. Although, intravascular ultrasound (IVUS) detects more coronary calcifications than MSCT, that technique is not yet widely available. Furthermore, IVUS is invasive diagnostic method while MSCT and CMR as non invasive imaging techniques have great potential in detecting early CAD.

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