Embriološki čimbenici u razvoju aritmije iz regije sinus-atrijskoga čvora

Embryological factors in the development of arrhythmia originating in the sinus-atrial node region

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Uvod: Kongenitalne anomalije donje šuplje vene (VCI) relativno su rijetke vaskularne anomalije koje se otkrivaju slučajno primjenom slikovnih pretraga u sklopu obrade duboke venske tromboze ili češće, obradom nevaskularne patologije.[1-3]

Prikaz slučaja: 27-godišnja bolesnica bila je hospitalizirana u Zavodu za kardiologiju Kliničke bolnice Merkur radi elektrofiziološkog ispitivanja (EFI) pod dijagnozom sinusne nepropisne tahikardije (IST) nakon prethodno isključenih reverzibilnih čimbenika sinus tahikardije i posturalne ortostatske hipotenzije. Pristupljeno je EFI, no zbog neočekivane anomalije venskog sustava isto nije provedeno u tom aktu. Učinjen je MSCT kojim se opiše udvostručenje VCI s kontinuacijom vene hemiazygos lijeve VCI te desnostrani May-Thurner sindrom zbog kojeg je započeta antikoagulantna terapija i provedeno testiranje na trombofilije. Bolesnica je homozigot za polimorfizam C667T i za polimorfizam A1298C. U drugom aktu provedena je EFI kojim je potvrđena IST te se ujedno učini terapijska modifikacija sinusnog čvora.

Zaključak: Slučajevi lijevostrane VCI povezani s kongenitalnim srčanim defektima nisu često opisivani, a IST nikada do sada nije opisana kao moguća posljedica malformacije venskog sustava. Sinusni čvor je vretenasta subepikardna specijalizirana mišićna struktura lokalizirana lateralno u sklopu epikardijalnog žlijeba sulcusa terminalisa desnog atrija, na samom spoju trabekuliranog dodatka sprijeda te glatko-mišićne venske komponente straga. S epikardne strane smješten je na pripoju gornje šuplje vene s desnim atrijem, a nastavlja se prema dolje i ulijevo niz sulcus terminalis te završava subendokarndno u blizini utoka donje šuplje vene. Lokalizacija i embriološki razvoj govore u prilog istom etiološkom čimbeniku koji je doveo do anomalije VCI i disfunkcije sinusnoga čvora.

Introduction: Inferior vena cava (IVC) congenital anomalies are relatively rare vascular anomalies that are detected accidentally by imaging during the diagnostic treatment of deep vein thrombosis or more frequently, by treating non-vascular pathology.[1-3]

Case report: A twenty-seven-year-old patient was hospitalized at the Department of Cardiology of University Hospital "Merkur" for electrophysiological treatment (EPI) due the diagnosis of inappropriate sinus tachycardia (IST) after previously excluded reversible factors of sinus tachycardia and postural orthostatic hypotension. Electrophysiologic study was initiated, but due to unexpected anomalies of the venous system, the same was not done in that act. A MSCT described the duplication of IVC with the continuation of the hemi-azygos veins of the left IVC and the successive right-sided May-Thurner syndrome for which an anticoagulant therapy was initiated, and a thrombophilia test was performed. The patient is homozygous for polymorphism C667T and polymorphism A1298C. In the second act, EPI was performed, confirming the IST and in the same act the sinus node therapeutic modification was done.

Conclusion: Left-sided IVC cases associated with congenital heart defects are not often described, and IST has never been described as a possible consequence of venous system malformation. The sinus node is a spinal sub-epicardial specialized muscular structure located postero-laterally within the epicardial groove of the right atrial terminal sulcus, at the junction of the trabecular frontal attachment and the smooth-walled muscular venous component posterior. On the epicardial side, it is placed on the attachment of the superior vena cava with a right atrium and continues down and down the sulcus terminalis and ends subendocardially near the IVC. Localization and embryological development are in favour of the same etiologic factor that has led to an anomaly of IVC and sinus node dysfunction.

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