



Urgentna radiologija kardiovaskularnog sistema

Emergency radiology of the cardiovascular system

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Apstrakt

Urgentna, akutna stanja u kardiovaskularnoj patologiji najčešće se povezuju sa akutnom okluzijom krvnih sudova (KS) (arterija i vena). Ateroskleroza se navodi kao najčešći uzrok, mada postoji mnogo drugih činitelja koji mogu dovesti do okluzije KS. Ateroskleroza perifernih i koronarnih arterija jeste hronično, sporoprogredirajuće stanje koje dovodi do suženja arterija. U zavisnosti od stepena suženja nekog vaskularnog korita, mogu se pojaviti različiti simptomi. Kod nekih pacijenata se desi akutni događaj, često udružen s trombozom i/ili embolijom i/ili okluzijom arterije, koji može ugroziti život bolesnika. Periferna arterijska bolest (PAB) zahvata sve KS, uključujući karotidne, vertebralne, mezenterične, renalne, krvne sudove gornjih i donjih ekstremiteta. Posebno mesto u urgentnoj radiologiji KVS-a ima patologija aorte, preteča ruptura aneurizme, gde je disekcija aorte posebno rizična po život pacijenata. Mesto radiologije u dijagnostici akutnog infarkta miokarda, kao urgentnog stanja, za sada je ograničeno.

Učestalost PAB-a je značajno povezana sa godinama starosti: nije uobičajena pre 50. godine, u starijoj životnoj dobi rizici za PAB slični su onima koji su važni u etiologiji koronarne bolesti (KB): pušenje, dislipidemija, šećerna bolest, hipertenzija. Posebno treba naglasiti da su studije pokazale da je pušenje značajniji faktor rizika koji ubrzava perifernu bolest arterija donjih ekstremiteta (PADE) nego kod bolesnika sa KB-om. Evropske preporuke za PAB nas upućuju na algoritam pregleda i metode lečenja PAB-a: porodična anamneza, fizički pregled, laboratorijski pregled. U akutnim stanjima KVS-a postoji čitava paleta radioloških metoda, od kojih su neke ključne za dalje lečenje. Osnovne dijagnostičke metode kod tromboza arterijskog i venskog sistema (KS donjih ekstremiteta, KS vrata, kao i visceralnih KS) jesu ultrazvučne metode: a) brahijalni indeks, b) duplex ultrazvuk (B-mod ehografija, pulsno-taladni dopler, kolor-dopler i ponjer dopler u cilju detekcije i lokalizacije vaskularnih lezija i kvantifikacije stepena i ozbiljnosti stenozе. Angiografija je bila zlatni standard vaskularnog imidžinga. Danas je to multidetektor kompjuterizovane tomografije (MDCT). Lečenje pacijenata uključuje interventne radiološke procedure, hirurško lečenje ili kombinaciju oba pristupa. Danas u lečenju PAB-a interventnim radiološkim metodama na raspolaganju imamo veliki broj različitih balona (obični, obloženi lekom, cutting baloni), stentova (metalni, obloženi lekovima i biodegradibilni), sisteme za aterokat, aspiracione sisteme i druge modalitete.

Abstract

Urgent, acute conditions in cardiovascular pathology are most often associated with acute occlusion of blood vessels (arteries and veins). Atherosclerosis is cited as the most common cause, although there are many other factors that can lead to the occlusion of the blood vessels. Atherosclerosis of the peripheral and coronary arteries is a chronic, slow-progressing condition that leads to narrowing of the arteries. Depending on the degree of narrowing of a vascular bed, different symptoms can occur. In some patients, an acute event occurs, often associated with thrombosis and/or embolism and/or occlusion of the artery, which can be life-threatening. The peripheral arterial disease affects all blood vessels, including carotid, vertebral, mesenteric, renal blood vessels of the upper and lower extremities. A special place in the emergency radiology of the cardio-vascular system has aortic pathology, a threatening aneurysm rupture, where aortic dissection is especially risky for the life of the patient. The place of radiology in the diagnosis of acute myocardial infarction, as an urgent condition, is currently limited.

The frequency of peripheral arterial diseases is significantly related to age: it is not common before the age of 50, in old age the risks for peripheral arterial diseases are similar to those important in the etiology of coronary heart disease: smoking, dyslipidemia, diabetes, hypertension. In particular, studies have shown that smoking is a more significant risk factor that accelerates peripheral arterial disease of the lower extremities than in patients with KB. European recommendations for peripheral arterial diseases refer us to the algorithm of examination and methods of treatment of peripheral arterial disease: family history, physical examination, laboratory examination. In acute conditions of the cardiovascular system, there is a whole range of radiological methods, some of which are crucial for further treatment. The basic diagnostic methods for thrombosis of the arterial and venous system (blood vessels of the lower extremities, neck, as well as visceral blood vessels) are ultrasound methods: a) brachial index, b) duplex ultrasound (B-mode ultrasound, pulse-wave Doppler, color Doppler) and ponjer Doppler to detect and localize vascular lesions and quantify the degree and severity of stenosis. Angiography was the gold standard of vascular imaging. Today it is a multidetector computed tomography (MDCT). Treatment of patients includes interventional radiological procedures, surgical treatment, or a combination of both approaches. In the treatment of peripheral arterial diseases by interventional radiological methods, we have at our disposal a large number of different balloons (ordinary, drug-coated, cutting balloons), stents (metal, drug-coated and biodegradable), atherocath systems, aspiration systems, and other modalities.