

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Vascular Diseases Quiz – Case 19

A 50-year-old male patient with no medical history underwent color Doppler ultrasound examination of renal arteries during investigation of resistant hypertension. Color Doppler ultrasound examination was not diagnostic and the patient was referred to a vascular surgeon. Since there was no other etiology for patient's resistant hypertension, a digital subtraction arteriography was performed (fig. 1)

Quiz #1: What is the diagnosis?



Comment

Aneurysms of the renal artery are rare. The incidence is estimated to 0.1–1% in general population. Renal aneurysms are more common in women and are found more often in the right than in the left side. The majority of them are saccular and the most common site of appearance involves the main renal artery bifurcation. Usually, renal artery aneurysms (RAAs) are due to fibrodysplasia. Other causes include Ehlers-Danlos syndrome, Marfan syndrome, trauma, dissection and inflammatory diseases. Renal artery aneurysms, commonly, are found in examinations performed for other reasons, but also may present with pain, hematuria or hypertension. Pathophysiologic

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mechanism of hypertension is unknown but it is speculated to be due to altered arterial flow to the kidney because of coexisting renal artery stenosis, kinking of the artery, distal embolization or existence of arteriovenous fistula. Complications include renal artery thrombosis, arteriovenous fistula formation, distal embolization and rupture.

Indications for treatment include RAAs of 1.0 cm or larger with resistant hypertension, all aneurysms 2.0 cm or larger and most aneurysms between 1.5 and 2.0 cm. Some authors suggest repair of all symptomatic aneurysms and aneurysms in women in childbearing age because high incidence of rupture has been observed during pregnancy with a mortality rate up to 70%. Surgical treatment options include aneurysmectomy and primary repair or ligation of the aneurysm and bypass. Rarely, nephrectomy cannot be avoided in cases of multiple, intraparenchymal or ruptured aneurysms. As far as endovascular treatment is concerned, patient can be treated either with the use of a stent-graft or with coil embolization.

In the aforementioned case patient was treated successfully with coil embolization.

In conclusion, patients with resistant hypertension without apparent diagnosis should be examined for the presence of RAA.

References

1. ESKANDARI MK, RESNICK SA. Aneurysms of the renal artery. *Semin Vasc Surg* 2005, 18:202–208

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Diagnosis: Right renal artery aneurysm