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# Vascular Diseases Quiz – Case 40

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2017, 34(2):284–285

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A 65-year-old male was referred to a vascular surgeon after been diagnosed with a significant right internal carotid artery (ICA) stenosis during a routine check. The patient's medical history consisted of hypertension, coronary artery disease, dyslipidemia and appendectomy approximately 30 years earlier. The patient did not report any neurological symptoms in the past.

A color duplex ultrasound scan (CDUS) showed a tight stenosis at the right ICA, distally narrowing to almost a total obstruction. Post-stenotic blood flow and turbulence were detected only by an experienced US operator. The atherosclerotic plaque was type 3. A digital subtraction arteriogram (DSA) was requested and previous findings were supported by the image of a string-sign presence of contrast thought the stenotic carotid segment (fig. 1).

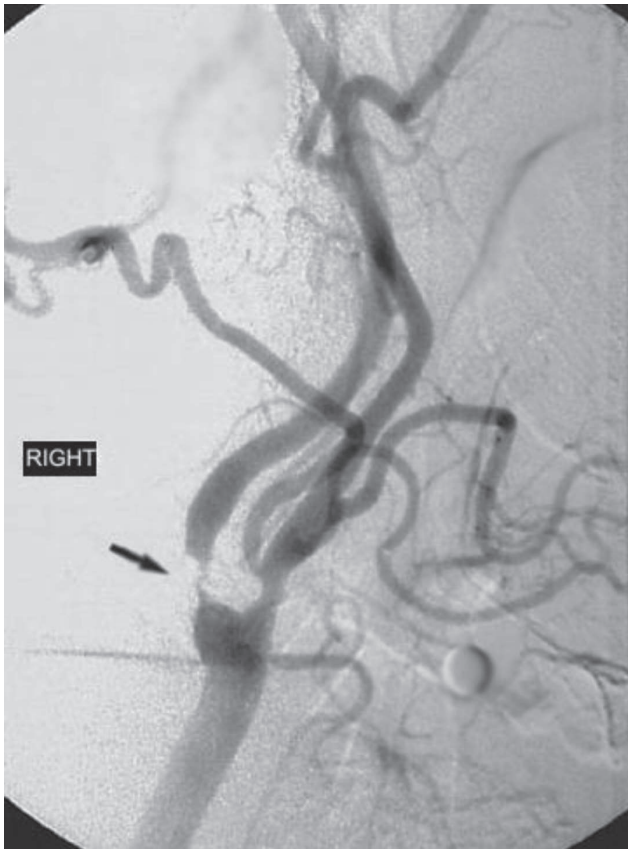


**Figure 1.** String-sign at right internal carotid artery (ICA) during digital subtraction angiogram (DSA).

## Questions

1. This patient only received single antiplatelet treatment and antihypertensive medication. What should change in his medication?
   a. Continue with antiplatelet, drop the antihypertensive agent and add a statin
   b. Continue with same medication, add a statin
   c. Continue with same medication, add a statin and a second antiplatelet of different type
   d. Discontinue the antiplatelet
2. Should this patient undergo carotid endarterectomy?
   a. Yes, as an urgent procedure before total occlusion occurs
   b. Yes, as an elective case
   c. No, it is absolutely not necessary. Just continue with best medical treatment
   d. There is no clear consensus regarding surgical repair.

## Comment

*The terms near-total occlusion or pseudo-occlusion of the ICA described a type of very significant stenosis that can be mistakenly diagnosed as a total occlusion. Proper imaging with either CDUS by an experienced operator and or computed tomography angiography (CTA) to visualize collateral flow to the brain is necessary.*

*Total ICA occlusion does not necessitate surgical or endovascular treatment and patients are generally treated medically with best medical treatment: antiplatelet, antihypertensive and statin medications. In the case of near-total ICA occlusion, best medical treatment also includes a second antiplatelet agent.*

*To date, there is no clear consensus regarding the necessity of performing a carotid endarterectomy (CEA) or carotid artery stenting (CAS) in patients with near-total ICA occlusion. The European Carotid Surgery Trialists study suggests that CEA should be avoided in near-total ICA occlusion, as adverse effects outnumber the potential benefit, and best medical treatment is the preferred method of treatment. Despite the significance of this study, its data*

*might be outdated and a number of centers have reported good results after CEA in this group of patients. CAS could be considered in patients with severe comorbidities and stable plaques (type 3 or 4).*

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**Answers:** *1c, 2d*