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Background

Traumatic dissection is a cause of stroke in young patients. The diagnosis of traumatic dissection is often difficult, because of missing initial symptoms or distracting injuries. Different injury mechanisms for traumatic dissection are described: distraction/extension, distraction/flexion or lateral flexion forces of the C-spine may result in traumatic ICA dissections. Small lesions of the vessel wall and intramural hematomas activate the coagulation cascade which results in thrombus formation and, concomitantly, in an increased risk of thromboembolic cerebral insults.

Case report

A 53-year-old man, smoker, with history of hypertension and dyslipidemia, presented to the emergency department with:

- **acute-onset left-sided hemiparesis,**
- **transient weakness of the right leg,**
- **and neck pain.**

Two weeks before the onset of his symptoms he had **cervical trauma** due to prolonged work with drill.

Neurological exam of the patient revealed left hemiparesis.

• **Magnetic resonance imaging showed right anterior cerebral artery territory infarction.**

• **An extracranial duplex sonography revealed the suspicion of a bilateral internal carotid artery dissection.**

Angio CT and angiography revealed

- **bilateral internal carotid dissection**
- **with subocclusion left internal carotid artery.**

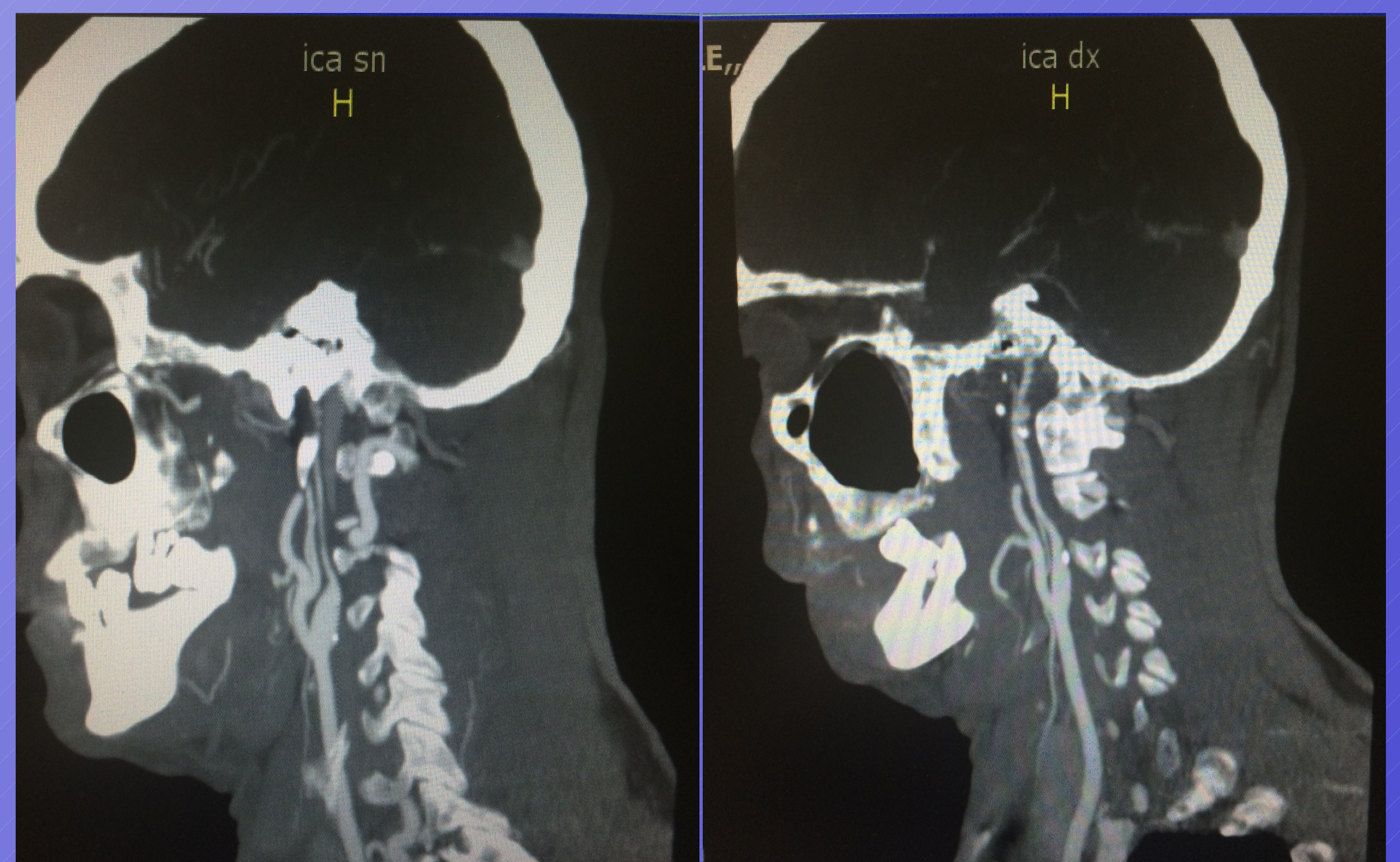
- **Values of homocysteine,**
 - **anticardiolipin antibodies IgG and IgM,**
 - **antinuclear antigen, rheumatoid factor**
 - **echocardiogram**
- were all normal.**



The patient was started on enoxaparin and then warfarin.

At discharge the patient had mild motor deficits and mild cognitive impairment.

Angio CT 3 months later confirmed reduction of flow along the course of the extracranial internal carotid artery on both sides, more marked on the left and with a pseudoaneurysm on the right.



Conclusions

The particularity of this case is that the symptoms appeared 15 days after injury and the most severe dissection (on the left carotid artery) caused only a transient ischemic attack. The treatment options in these cases are limited to antiaggregants or anticoagulants depending on the extent of the dissection and its location and size of the involved brain tissue. There is no evidence of therapeutic superiority of anticoagulation over antiplatelet agents. Angiography is the appropriate diagnostic procedure to identify and localize the site of the dissections.

1. Cortex-sparing infarction in triple cervical artery dissection following chiropractic neck manipulation. Gayane Melikyan et al. Qatar Medical Journal, Vol. 2015 / Art. 16.
2. Traumatic bilateral carotid artery dissection following severe blunt trauma: a case report on the difficulties in diagnosis and therapy of an often overlooked life-threatening injury. Moritz Crönlein et al. Eur J Med Res (2015) 20:62.