

The utility of intraoperative echo colour Doppler for missing intraluminal jugular lesions.

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Introduction: Chronic cerebrospinal venous insufficiency (CCSVI) is a syndrome characterized by stenoses of the internal jugular and/or azygous veins. The endovascular treatment with balloon angioplasty (PTA) is always preceded by a phlebography that shows the stenotic segment but not always highlights the anatomic cause of the obstruction. Echo-color-doppler with high frequency arrays is able to detect most of the parietal vessel abnormalities that can be missed during phlebography.

Materials & Methods: A 40y.o. woman with Relapsing Remitting Multiple Sclerosis and CCSVI positive was treated with balloon angioplasty on the left jugular vein because an eccentric annulus creating an obstruction in the J1 segment was previously detected by Echo-color-doppler. During phlebography the annulus was missed and the stenosis was not evident and therefore an Echo-color-doppler was performed intraoperatively to confirm it. The eccentric balloon's deformation was observed during the inflating procedure.

Results: Echo-color-doppler is an invaluable tool even during phlebography because can show up parietal abnormalities.

Discussion & Conclusion: During phlebography the inclination of the x-ray tube as well as the flow and quantity of the contrast is very important and sometimes some eccentric abnormalities can be missed. Intraoperative echo colour Doppler is required in order to confirm previously detected intraluminal defects.

References:

The chronic cerebrospinal venous insufficiency syndrome. Zamboni P, Galeotti R. *Phlebology*. 2010 Dec;25(6):269-79.

A prospective open-label study of endovascular treatment of chronic cerebrospinal venous insufficiency. Zamboni P, Galeotti R, Menegatti E, Malagoni AM, Giancesini S, Bartolomei I, Mascoli F, Salvi F. *J Vasc Surg*. 2009 Dec;50(6):1348-58.e1-3. Erratum in: *J Vasc Surg*. 2010 Apr;51(4):1079.

Chronic cerebrospinal venous insufficiency in patients with multiple sclerosis. Zamboni P, Galeotti R, Menegatti E, Malagoni AM, Tacconi G, Dall'Ara S, Bartolomei I, Salvi F. *J Neurol Neurosurg Psychiatry*. 2009 Apr;80(4):392-9. Epub 2008 Dec 5.