# Compensatory collateral circles in vertebral and carotid artery occlusion.

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## SUMMARY

The obstructive disease of the supraaortic trunks has considerable clinical importance.

Patients with the same grade of obstruction can display a wide spectrum of symptoms. Apart from the grade, etiology and localization of the obstruction, the presence of collateral circles plays an essential role in the determination of the symptoms.

We selected all asymptomatic patients, undergoing a diagnostic investigation with EchoColorDoppler in a period of 13 years, in whom an occlusion of the common carotid artery, of the internal carotid artery or of the vertebral artery was present, and we studied the compensatory collateral circles. We considered 8 subjects affected by common carotid occlusion, 66 subjects with internal carotid occlusion and 24 subjects with vertebral artery occlusion.

In the 8 subjects affected by common carotid occlusion, before the bifurcation, the collateral circle was realized by the superior thyroid arteries through the supraisthmic thyroid artery.

All of the 66 subjects with internal carotid disease showed collateral circles through the ophthalmic branches and through the communicating arteries.

In the 24 subjects with vertebral artery occlusion, the compensatory collateral circle was realized by the cervical, costocervical and occipital branches.

In conclusion, the presence of an adequate hemodynamic compensation through a collateral circle represents an important positive prognostic factor and can avoid invasive procedures, thus avoiding possible complications.