

NEUROSONOLOGY: A POTENTIAL DIAGNOSTIC TOOL IN CENTRAL RETINAL VEIN OCCLUSION

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Introduction: Central retinal vein occlusion (CRVO) is a common vascular retinal pathology. It produces a subacute monocular severe visual loss, usually painless. Retinal and iris neovascularization can result in vitreous hemorrhages, neovascular glaucoma and tractional retinal detachment. The diagnosis is clinical-based, through fundoscopic exam, and supported by fluorescein angiography, an invasive technic requiring intravenous contrast administration. The diagnosis becomes harder in the presence of local complications preventing ocular fundus observation, as hemovitreous, sometimes requiring clarifying surgical intervention. Neurosonology, a non-invasive and safe technic, has not yet been pointed out as a definite diagnostic tool in CRVO.

Clinical Case: Female, 82 years old, with known and poorly controlled essential hypertension and type 2 diabetes mellitus, developed a subacute visual acuity impairment in her left eye, allowing solely hand movements visualization. Ophthalmoscopy revealed a total hemovitreous of the left eye. Ocular echography did not show any other lesions. Differential diagnosis stood between CRVO and ocular arterial ischemic syndrome. Transorbital colour coded Doppler identified a preserved left ophthalmic artery and a reverberant flow in the central retinal vein, suggesting CRVO. The patient underwent *pars plana* vitrectomy associated to endolaser as management of this secondary complication of CVRO.

Conclusions: The present clinical case underlines a potential new neurosonologic application, as a diagnostic tool in CVRO, particularly useful when ocular fundus cannot be properly visualized.