Case report

We describe a 50 years-old female with chronic migraine sine aura and dysthymia, affected by relapsing-remitting (RR) MS. MS in this patient started at age of 41 (April 2005) with diplopia and vertigo. Brain MRI showed multiple non enhancing demielinating lesions (Fig. 1). Serum screening of thrombophilia, collagenopathies and vasculitis were negative; oligoclonal bands were present in the cerebrospinal fluid and PEV normal. On February 2007 IFNβ1a 22 mcg three times a day was started. Eight months after, the dosage was increased to 44 mcg with good response and tolerability. Migraine was unchanged over the time and dysthymia well controlled by therapy with tricyclic (Dotiepine and Clorimipramine) and benzodiazepines (Alprazolam). Neuropsychological tests were normal. On January 2011 transesophageal echocardiography demonstrated a patient foramen ovale (FOP) with slight shunt right/left. Because FOP and cigarette smoke, ASA (100 mf/die) was started and three months after the patient was submitted to a percutaneous foramen ovale closure. The procedure was well tolerated and ASA stopped after six months. During this period MS was clinically and radiologically well controlled by IFNβ1a 44 mcg three times a day. On January 2014 the patient presented a sudden blindness in OS (visus 2/10). No cephalalgia was referred and brain MRI was negative for MS reactivation, neuritis (Fig 2) or different neurological diseases. Also glaucoma was excluded. A central retinal vein occlusion (CRVO) was revealed by retinal fluorangiography (FAG) and optical coherence tomography (OCT) (Fig 3, 4). Haematic exams, including hycosteinemia, coagulation, lipidic profile and thrombophilia, were negative. Also trans-esophageal echocardiogram, transcranial and supra-aortic vessels ultrasound (Fig. 5) were normal. ASA was restarted and IFNβ1a replaced with Glatiramer Acetate. On March, CRVO was treated by intra-vitreal steroids (Ozurdex), repeated on June with any improvement. To date, MS was stable and the visus of patient only light improved.

Background

Multiple Sclerosis (MS) is a chronic inflammatory demyelinating disease of the central nervous system commonly treated with disease-modifying agents. Subcutaneous interferon beta 1a (IFNβ1a) is approved for treatment of relapsing-remitting MS with long term beneficial effects, safety and tolerability. To date, flu-like symptoms, inflamed injection-sites, depression, hematological and hepatic enzyme abnormalities are the most common, manageable side effects. Retinal artery and vein occlusion (CRVO) are rarely reported in MS. Also IFNβ1a therapy is not associated with CRVO.

Conclusions

CRVO is a common retinal vasculopathy, frequent in patients over 60 years with vascular disease, hypertension and glaucoma. A minority of patients with CRVO are young adults (<40 years old) with any typical risk factors. The association of CRVO with MS is very rare but combined retinal artery and vein occlusion was reported in a case of MS associated with long-term use of IFNβ1a therapy. In our patient any contraceptives were used and also other causes of CRVO, such as hypercoagulability states, hyperlipidemia, hyperhomocysteinemia, collagen vascular diseases, lymphoproliferative disorders, hypertension, and trauma, were excluded. Because MS, the patient was treated with IFNβ1a since seven years so a possible correlation between CRVO and IFNβ therapy cannot be excluded.