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Rare side effect of systemic steroids:Central serous chorioretinopathy

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Summary
Introduction
Central serous chorioretinopathy (CSRC) is often related to systemic corticosteroids, widely used in clinical practice by internists. However, its prognosis is generally good but in some cases, it can lead to important functional visual alterations for patients, It is imperative to distinguish this pathology from other diseases involving retinal detachment. Especially when central serous chorioretinopathy and uveitis coexist, it is imperative to distinguish serous retinal detachment from an inflammatory flare, as the respective treatments may be radically different.
Observation
We report the case of central serous chorioretinopathy in patients taking systemic corticosteroids because of uveitis complicating Behçet's disease. They were diagnosed and managed in our multidisciplinary uveitis clinic . The clinical picture and the para-clinical work-up were in favor of a CRSC. The cessation of corticosteroid therapy after a rapid degression allowed a disappearance of the RSD with important functional improvement.
Discussion
CRSC is an ocular complication requiring the discontinuation of corticosteroids because of the risk of blindness. It would be due to the stimulation by corticoids of the mineral receptors present in the choroidal vessels, which leads to choroidal hyperpermeability causing a leakage point and a retinal detachment.
Conclusion
CRSC is a rare diagnosis, but due to its seriousness it should be kept in mind by rheumatologists in front of any decrease in visual acuity in a patient on corticosteroids

Keywords: *Central serous chorioretinopathy ,Corticosteroids, Side effect, Retinal disorder*

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I. Introduction

Behçet's disease is a multisystemic disorder of unknown etiology characterized by chronic, relapsing vasculitis; its ocular and systemic complications can be prevented by controlling the disease with early and effective treatment. Systemic steroids and immunomodulatory agents play an important role in controlling inflammation. But their prolonged use can lead to systemic side effects such as osteoporosis, susceptibility to infection, intestinal ulcers, hyperglycemia, and hypertension, as well as serious ocular side effects such as cataract, increased intraocular pressure, and, less frequently, central serous chorioretinopathy (CSCR) (1).

CSCR is defined as a serous detachment of the neurosensory retina at the macula, which may be accompanied by retinal pigment epithelial (RPE) detachment (2,3). Steroid treatment, such as oral, inhalation, intranasal, intravitreal, and epidural, can cause SCCR(4,5). Here we present the case of a man, who developed acute CSCR while undergoing systemic steroid treatment for Behçet's disease.

II. Observation

Patient aged 47 years followed in our department for Behcet's disease since 2013, under corticosteroid therapy, with ocular and skin involvement. She received three boluses of 1 g of solumedrol followed by oral corticosteroids at a dose of 1 mg/kg/day with a progressive decline for a flare-up of vasculitis. She presented a progressive decline in visual acuity under 40 mg/day of corticosteroids associated with metamorphopsia in the right eye. Ophthalmological examination showed a better visual acuity corrected to 8/20 with fundus epithelial retinal bullous lesions corresponding to retinal detachment.Retinal angiography(Fig1:A-B) and macular OCT confirmed CSCR(Fig2).Examination of the left eye showed no abnormality, visual acuity being 20/20.Corticosteroid therapy was stopped after a rapid degression. The evolution was marked by an important improvement of the visual acuity which went back to 18/20. The retinal angiography and the OCT of control

after a stop of two months showed a disappearance of the leakage points with regression of the retinal lesions with total resorption of the DSR (Fig 3).

III. Discussion:

CSCR is most often idiopathic, more frequent in men between 40 and 50 years of age (9.9/100,000) than in women (1.7/100,000) (2).Currently highlighted risk factors include psychosocial stress, high endogenous catecholamines, hypertension, pregnancy, organ transplantation, and obstructive sleep apnea syndrome(6-7). As for corticosteroids are currently recognized as an important risk factor in the development of CSCR (8, 9). It is hypothesized that CSCR is caused by impaired ion pump function and collagen synthesis in the retinal pigment epithelium (RPE) (9,10), or by increased vascular permeability of a thick and hypervascular choroid (pachychoroid). One of the many physiologic functions of the choriocapillaris is to supply oxygen and nutrients to the outer retina and to remove waste products. It has been postulated that corticosteroids enhance fibroblast growth, leading to capillary fragility in choroidal vessels and thus impaired chorio-capillary function (11). Another theory is that corticosteroids may also interfere with ion transport by altering blood-aqueous barrier permeability and the outer blood-retinal barrier by increasing cAMP levels in RPE cells(12).

In acute cases, patients report subretinal detachment (SRD)-related symptoms in the macular area: blurred vision, relative central scotoma, metamorphopsia, moderate dyschromatopsia, hyperopia, micropsia, and reduced contrast sensitivity. It is clinically detectable on fundus examination and optical coherence tomography, with limited focal or multifocal RPE alterations that may be limited to small pigment epithelial detachments and leakage through the RPE on fluorescein angiography(8-9). The visual prognosis is generally very good in cortico-induced CSCR, with spontaneous resolution of symptoms with recovery of visual acuity in 3-4 months after cessation of corticosteroids. The risk of recurrence is 30 to 50(13,14); rare cases of unfavorable evolution have been described (3).

In case of CSCR and coexistence of uveitis, as in our case, it is mandatory to distinguish retinal serous detachment from a worsening of uveitis, the symptomatology may be very similar, For this reason, an optimal ophthalmological examination is necessary, as well as the use of additional diagnostic tools such as OCT, When CSCR is diagnosed in the context of prior or concomitant uveitis, immunosuppressants other than corticosteroids should be initiated, or the doses of immunosuppressants increased. When corticosteroids cannot be avoided due to urgency or limited numbers access to other medications, topical or periocular should be employed.

Photodynamic therapy (PDT) is a treatment approach used for patients with bilateral or recurrent disease, or who require rapid visual rehabilitation. Or who do not show spontaneous resolution within 3 months (16). In addition, a meta-analysis evaluating the efficacy of anti-angiogenic factor antibodies in CSCR showed that VEGF therapy was not superior to observation at 6 months of progression in terms of improved corrected visual acuity (BCVA) in acute cases (17). However, evaluation of chronic case studies showed the same results, but there were significant differences between the two groups in terms of central macular thickness (CMT)

IV. Conclusion:

Not only uveitis but also non uveitic pathologies such as CSCR should be considered when patients present with decreased visual acuity while taking steroids for pathologies such as Behcet's disease that require steroid therapy. Otherwise, cases of CSCR with atypical clinical features may be difficult to diagnose. CSCR may resolve spontaneously with close monitoring and simple therapeutic modifications.

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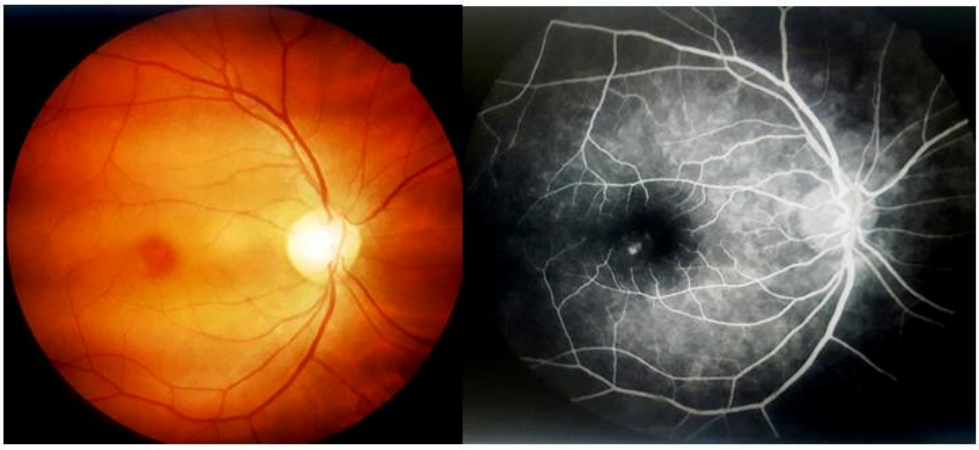

Fig.1A : Retinophotograph showing a macular uplift bubble
1B: Fluorescein angiography. Visualization of the vanishing point with fluorescein diffusion from the early time in addition to the macular uplift

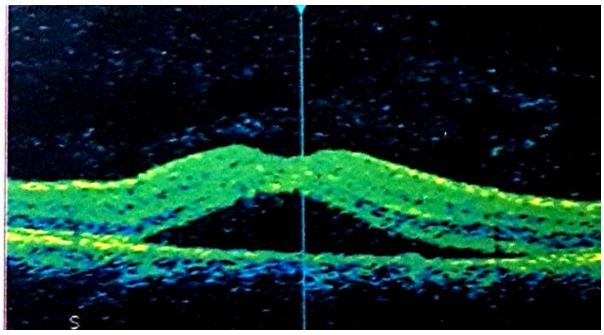

Fig. 2: Optical coherence tomography (OCT). On the right, showing macular retinal serous detachment (Etoile), with respect of the foveolar profile.

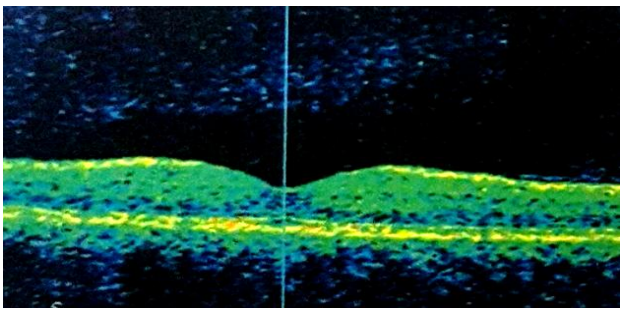

Fig 3 :OCT showing the total disappearance of the DSR after 2 months

C. Sadouni, et. al. " Rare side effect of systemic steroids:Central serous chorioretinopathy." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 20(07), 2021, pp. 20-22.