Comment

The pathogenesis of CSCR is not yet fully understood. It is known, however, that it affects mainly men from 20 to 45 years of age, with type-A personality, and is often triggered by emotional stress.

Our patient had indeed a type-A personality and was under professional stress. Nevertheless, we were puzzled to see CSCR in a 45-year-old woman who was not hypertensive, pregnant or under steroid treatment. Detailed questioning, however, disclosed testosterone intake. No relapse of CSCR was observed following cessation of testosterone treatment. We assume therefore that the testosterone treatment in this case may have contributed to the disease. We even postulate that a relatively high level of testosterone may be a risk factor for CSCR in general, as androgen receptors have been found in human retinal pigment epithelial cells.[1] This hypothesis would also explain the preponderance of males CSCR as well as the with age range of patients by age dependence of testosterone level.[2] Further, it is known that subjects with type-A personality on average have higher testosterone levels,[3] which may be further increased under emotional stress.[4]

Most diseases result from the interplay of many factors. For CSCR, testosterone seems to be one of these acting factors.

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High-speed, ultra-high-resolution optical coherence tomography of acute macular neuroretinopathy

Acute macular neuroretinopathy (AMN) is a rare, macular disorder of unknown aetiology. Patients with AMN are typically young women who present with paracentral scotomata in one or both eyes corresponding to red wedge-shaped parafoveal lesions. The retinal location of the lesion in patients with AMN is not clear. High-speed, ultra-high-resolution optical coherence tomography (hsUHR-OCT) is an investigational research prototype instrument capable of producing cross-sectional images of the retina; it supports an axial resolution of about 3.5 μm compared with about 10 μm in Stratus OCT (Dublin, California, USA)[1] which enables enhanced imaging of intraretinal morphology including photoreceptor inner segments, outer segments and the external limiting membrane.[2] We report a patient with AMN who underwent imaging with hsUHR-OCT suggesting that the lesion in AMN is located in the outer retina.

Case report

A 51-year-old woman presented with a 10-day history of a sudden onset of a grey, oval paracentral scotoma in her right eye. Her medical history was notable for systemic hypertension; her drugs included trivoral and ramipril. Best-corrected visual acuity was 20/25 in both eyes. She was able to precisely demarcate the paracentral scotoma on an Amsler grid. Funduscopy of the right eye showed a focal, reddish petaloid lesion superior to fixation. Fluorescein angiography and images on the Stratus OCT were unremarkable. hs UHR-OCT images showed focal depression of the external limiting membrane, inner/outer photoreceptor segment (IS/OS) junction, photoreceptors and retinal pigment epithelium. Changes in the photoreceptor outer segments (fig 1A) in the region of the petaloid lesion were also noted. The inner retina appeared normal.

After 3 months, visual acuity was 20/25 in the right eye, and the patient reported a slight reduction of the scotoma. Funduscopy showed resolution of the petaloid lesion. hsUHR-OCT showed realignment of the outer photoreceptor layer and the IS/OS junction (fig 1B).

Comments

The pathogenesis of AMN remains unknown, although an acute inflammatory process or

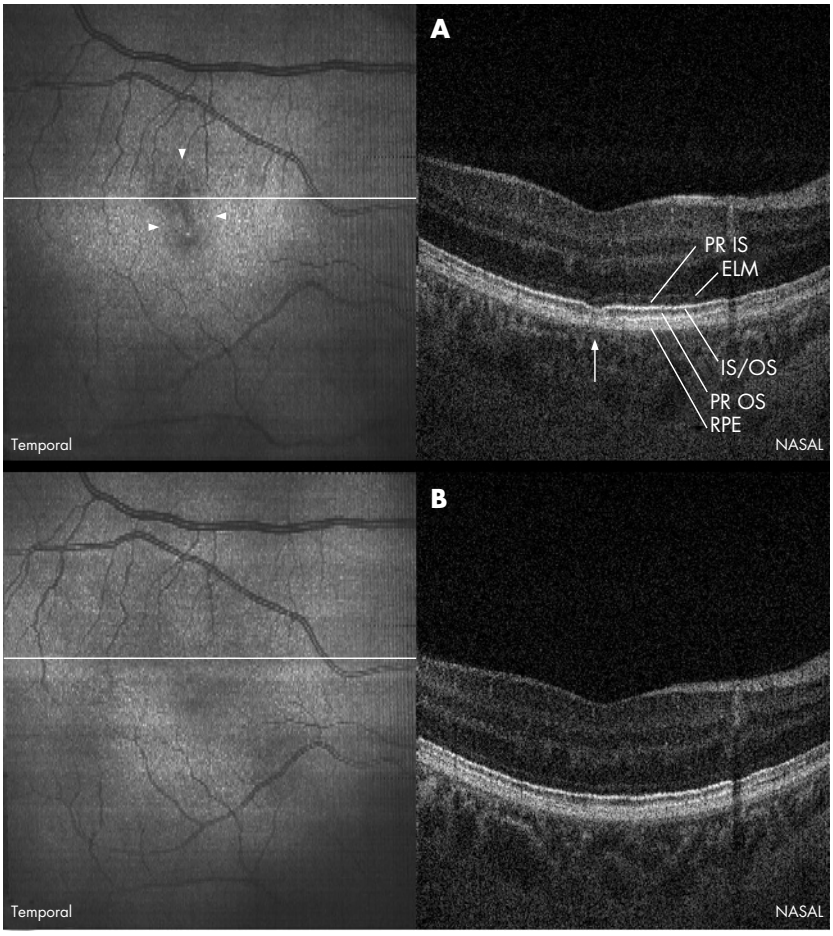

Figure 1 Three-dimensional, high-speed ultra-high-resolution optical coherence tomography scan of the macula. A 180-image raster scan (512 axial scans per image) provides a 6×6-mm pattern. The cross-sectional images are precisely registered to a fundus image created from an anterior view of all 180 images. (A) Perimacular petaloid lesion (arrowheads), corresponding to a focal reduction in the photoreceptor outer segments (arrow). (B) Marked resolution of both the petaloid lesion and outer segment morphology at 3-month follow-up. ELM, external limiting membrane; IS/OS, inner/outer segment photoreceptor junction; PR IS, photoreceptor inner segments; PR OS, photoreceptor outer segments; RPE, retinal pigment epithelium.

vascular disease associated with hypertension have both been proposed as mechanisms.[3 4] Acute macular neuroretinopathy has also been associated with oral contraceptive use,[5] eclampsia[6] and heavy caffeine consumption.[7] The resulting scotomata can persist for several years.[5] Proven treatment is not available.

An early report suggested that the AMN lesion was located in the superficial layers of the retina.[3] A later report using OCT suggested that the lesion was located in the outer retina.[8] Studies using early receptor potential[9] and a multifocal electroretinogram[10] pointed to photoreceptor involvement.

hsUHR-OCT showed that the focal lesion in patients with AMN occurs in the outer retina, possibly at the level of the photoreceptor outer segments with distortion of the IS/OS junction. The lesion may also represent a disturbance at the outer nuclear layer, resulting in the downward depression and disruption of the underlying external limiting membrane, photoreceptors and rentinal pigment epithelium.hs UHR-OCT shows that the structural changes in the outer retina in this patient with AMN may be reversible despite the persistence of visual symptoms.

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The aetiology and associations of conjunctival intraepithelial neoplasia: further evidence

Kiire and Dhillon draw attention to the surge in cases of conjunctival neoplasia,[1] but do not make clear that this has occurred mostly in sub-Saharan Africa—in Uganda, for example, the reported incidence has more than tripled over the past decade.[2 3] HIV infection leads to a roughly 10-fold increase in the risk of conjunctival neoplasia, and in Africa, most people with conjunctival neoplasia are HIV positive.[4–8] In a recent study of 414 cases in Uganda, 64% of people with conjunctival neoplasia were HIV positive; this applied to intraepithelial and invasive cases.[9] Ophthalmologists in Western countries may see people with conjuctival neoplasia among immigrants from Africa, and the offer of HIV testing to such people is mandatory. The median CD4 T lymphocyte count of HIV-positive people at diagnosis was found to be 111 cells/µl (based on results from 112 HIV infected people) in one study, and use of antiretroviral treatment was shown to cause tumour regression in an otherwise inoperable case.[9 10]

The excess risk among HIV-infected people suggests a role for another underlying infection in the aetiology of conjunctival neoplasia.[11] A variety of human papillomaviruses have been identified in some, but not all, tumour specimens from several small case series, and results from case–control studies have been inconclusive.[12–17] Although an active search for other oncogenic infections is ongoing, no new candidate virus (if one exists) has yet been identified. In relation to other risk factors, exposure to solar ultraviolet radiation is an established cause of disease. Lesions occur exclusively in areas of the eye exposed to the sun; these are associated with solar elastosis and have been shown to contain classical ultraviolet-induced p53 mutations.[9 17 18] The incidence of the tumour increases with increasing levels of ambient solar radiation, and associations with exposure to sun and history of skin cancer have been identified in case–control studies.[13 19–21] Further, a polymorphism of TP53 codon 72 has been linked to an increased risk of neoplasia in a study from Uganda including 107 patients and 115 controls.[22] Exposure to dust and ocular trauma have also been suggested as possible risk factors, although evidence is scant.[23 24]

Kiire and Dhillon mention reports of frequent tumour recurrence after initial treatment. By contrast, we found a low rate of recurrence, 3% among 397 patients followed up for a median time of 32 months, using a simple surgical protocol applicable to resource-poor countries.[9] They discuss treatment with topical mitomycin C and 5-fluorouracil, but these require prolonged follow-up and are not practical in much of Africa. They also call for a large controlled trial of interferon α 2b; only in Africa could a large enough series be found. Excision biopsy remains the treatment of choice for most patients, requiring only one visit, except for the rare diffuse tumours. We agree that a low threshold for advising excision of lesions is important, as tumours as small as 2–3 mm can be invasive; endophytic tumours are especially deceptive, sometimes looking like pingueculae.[9]

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