

Figure 2 (Top left) Coronal CT-scan showing a mass anteriorly localized in the right superior rectus muscle depressing the Allen implant and the prosthesis. (Top right) Coronal CT-scan demonstrating a posteriorly located mass in the medial rectus muscle. (Bottom) Axial CT-scan showing two lesions in the superior and medial rectus muscle (small orange arrows). Note the tumour extension in to the optic nerve canal (big yellow arrow).

metastasis to the orbit tends to occur in patients that already suffer from widespread metastatic disease.^{4,5}

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Sir, Optical coherence tomography findings in a case of chronic welder's maculopathy

Maculopathy secondary to exposure to welding arc light occurs due to photochemical damage to the outer retina,^{1,2} but the target intraretinal structures are unclear. We report the optical coherence tomographic (OCT) findings in a case of welder's maculopathy. We could not come across a similar previous publication (Medline search).

Case report

A 23-year-old welder, reported to us with a defective vision in both the eyes following occasional unprotected exposure to metal arc inert gas shielding (MIG) welding arc light over the past 6 months. There were no previous episodes of ocular pain. On examination, his best-corrected visual acuity in both the eyes was 20/40, N₈. Anterior segment examination was unremarkable, with no evidence of photophthalmia. Fundus examination revealed a reddish-yellow cystic lesion at the level of the retinal pigment epithelium (RPE) in both the eyes (Figure 1a and d). Fundus fluorescein angiography (FFA) revealed pooling of dye (Figure 2a and b).

OCT using (*STRATUS OCT*TM Model 3000, Carl Zeiss Meditech technologies) disclosed a hyporeflective space between the inner and outer high-reflective-layers (HRL); (with the outer HRL corresponding to the RPE -

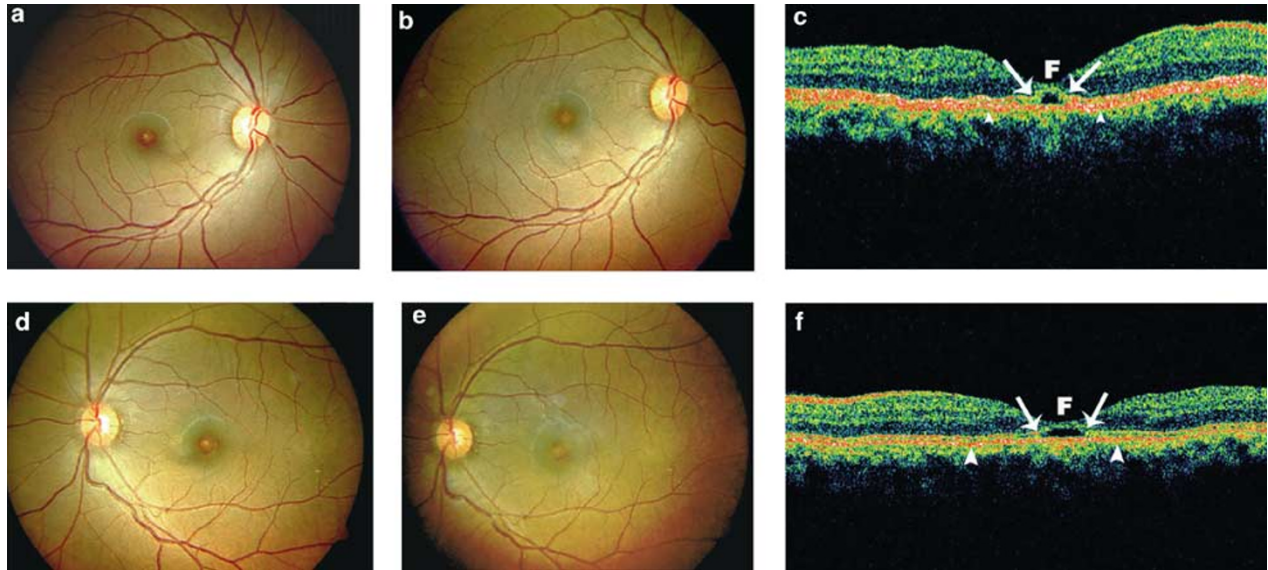


Figure 1 (a) Colour fundus photograph of the right eye at presentation showing a reddish-yellow cystic outer retinal lesion. (b) Colour fundus photograph of the right eye at 6 months of follow-up showing that the lesion has remained status quo. (c) OCT (horizontal line scan) through the fovea (represented by F) of the right eye at presentation showing a hyporeflective space in the outer retina between the two high-reflective-layers (HRLs). The inner HRL is discontinuous (the margin of discontinuity denoted by white arrows). The outer HRL (denoted by white arrowheads) is intact. Note that the signals from the inner segments of the photoreceptors (at the roof of the hyporeflective space) are intact. (d) Colour fundus photograph of the left eye at presentation showing a reddish-yellow cystic outer retinal lesion. (e) Colour fundus photograph of the left eye at 6 months of follow-up showing that the lesion has remained status quo. (f) OCT (horizontal line scan) through the fovea (represented by F) of the left eye at presentation showing a hyporeflective space in the outer retina between the two high-reflective-layers (HRLs). The inner HRL is discontinuous (the margin of discontinuity denoted by white arrows). The outer HRL (denoted by white arrowheads) is intact. Note that the signals from the inner segments of the photoreceptors (at the roof of the hyporeflective space) are intact.

choriocapillaris complex)³ in the outer retina, with disruption of the inner HRL (corresponding to the junction between inner and outer photoreceptor segments), (Figure 1c and f). The signals from the inner segments of the photoreceptors were intact. The patient was instructed on the compulsory use of protective eye glasses at work. The patient subsequently changed his occupation. When last seen at 6 months the patient's visual acuity and fundus findings (Figure 1b and e) were unchanged.

Comment

The lack of ocular pain and features of photophthalmia that are traditionally associated with exposure to welding arc light in our patient are probably due to the use of MIG welding machine that emits less ultraviolet (UV) and infrared (IR) radiations but more of visible light (380–780 nm) and near IR light (>1600 nm) in contrast to the traditional welding rod.⁴ These wavelengths in contrast to the former are not absorbed by the anterior segment structures and are capable of reaching the retina and causing damage to the RPE photoreceptor layer.⁴

The exact site of pathology of welder's maculopathy is still largely unclear due to absence of histopathologic and

OCT reports. However, such reports are available in cases of solar retinopathy,^{3,5} which causes a similar photochemical damage.¹ OCT findings similar to our case were reported in solar retinopathy previously,³ that in turn corroborated a previous histopathologic study that had shown fragmentation of the photoreceptor lamellae and pyknosis of photoreceptor nuclei.⁵

The disruption of the inner HRL with retention of the signals from the photoreceptor inner segments in our case suggests a probable dysfunction of the outer segments alone. Of note, one of the proposed mechanisms of photochemical retinal damage is the thermal instability to the dynamic outer segment structure of the photoreceptors, by the intense light.¹ The hyporeflective space could reflect the accumulation of these damaged photopigment containing discs that are not removed due to the disturbance of the phagocytic function of RPE, that has also been suggested to occur in phototoxic maculopathies.¹ We hence believe that the target retinal structures to be affected in our case are the photoreceptor outer segments and the RPE.

Additionally, OCT proves that the damage in this case of chronic welder's maculopathy is photochemical in nature. A thermal injury would have damaged the entire neurosensory retina. Photochemical damage, on the

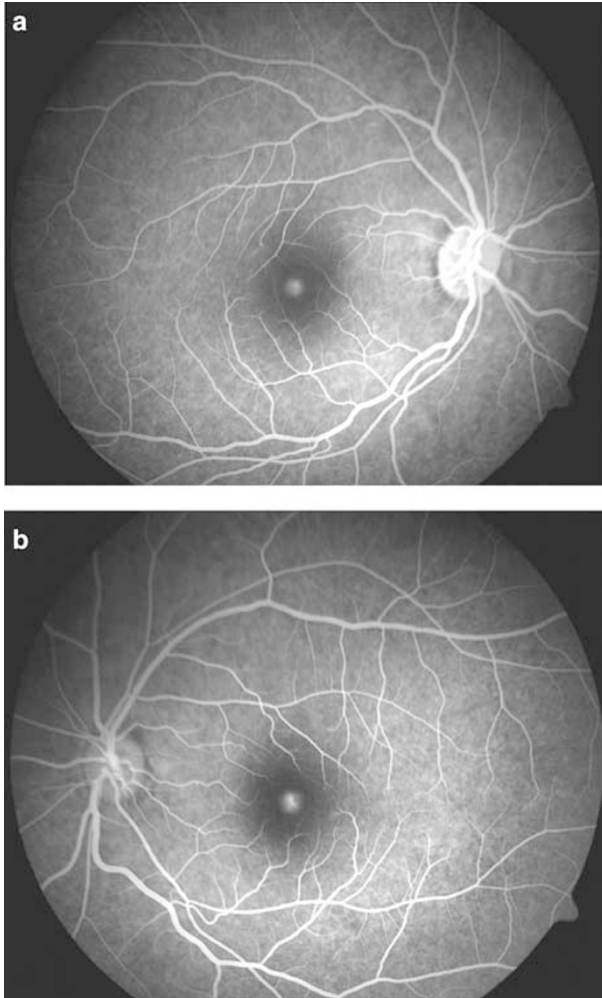


Figure 2 (a) Fundus fluorescein angiogram (late venous phase) of the right eye showing pooling of the dye in the subfoveal lesion. (b) Fundus fluorescein angiogram (late venous phase) of the left eye showing pooling of the dye in the subfoveal lesion.

other hand, that occurs from longer exposure to bright sources damages only the outer retina.⁶

In conclusion, we think these new OCT findings that are presented would help in better understanding of chronic welder's maculopathy. We also present OCT-based evidence for the photochemical nature of damage and the site of damage to be the photoreceptor outer segments and the retinal pigment epithelium.

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Sir,

An unusual cause of acute lid swelling

Case report

A 34-year-old caucasian man attended eye casualty complaining of unilateral left upper lid swelling, which had occurred over a 24-h period. On examination visual acuity was 20/20 in both eyes with marked left upper lid oedema and minimal papillary reaction. Anterior segment examination, intraocular pressures, and fundoscopy of both eyes were unremarkable. A diagnosis of allergic preseptal oedema was made and the patient was prescribed a topical antihistamine.

An hour later the patient returned to eye casualty, anterior segment examination at this second attendance identified a translucent worm under the temporal bulbar conjunctiva (Figure 1a). On direct questioning the patient reported a visit to rural Cameroon 12 years previously, where he had explored an uncharted river. Under topical