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Sir,
Choroidal neovascularization secondary to choroidal osteoma: successful treatment with photodynamic therapy

Case report

A 50-year-old white woman was referred for evaluation of an amelanotic choroidal lesion in the left

eye. She had presented to her ophthalmologist with a recent onset of blurred vision of 2 weeks duration. Her past ocular history, medical history, and family history were negative. On examination, the best corrected visual acuity was 6/6 in the right eye and 6/9 in the left eye. Anterior segment examination of both eyes and fundus evaluation of the right eye was unremarkable. Ophthalmoscopic evaluation of the left eye revealed a solitary amelanotic choroidal lesion in the superior macular region. The lesion was about 6 mm × 5 mm in basal dimension and was minimally elevated. The margins were scalloped. Overlying retinal haemorrhages and subretinal fluid, which extended into the foveal region, were also observed (Figure 1a). B-scan ultrasonography demonstrated high reflectivity at the level of the choroid suggestive of calcium deposition (Figure 1b). On fluorescein angiography the lesion revealed early patchy hyperfluorescence and late staining. In addition, overlying the posterior aspect of the choroidal lesion, lacy hyperfluorescence indicative of extrafoveal classic choroidal neovascularization was present (Figure 1c). A diagnosis of choroidal osteoma with choroidal neovascularization was made. Photodynamic therapy (PDT) according to the TAP study protocol was performed without any complications.¹ A total of three sessions were performed at 6 weeks interval under fluorescein angiographic guidance. Following completion of therapy, the vision improved to 6/6. Ophthalmoscopically a greyish subretinal fibrotic membrane was noted in the treated area with total resolution of subretinal fluid and retinal haemorrhages (Figure 1d). Complete closure of choroidal neovascularization was seen on fluorescein angiogram (Figure 1e). At a 6-month follow-up visit, additional PDT was performed to treat a posterior marginal recurrence. She has remained stable for 6 months following the last PDT with a final visual acuity of 6/36.

Comments

The term choroidal osteoma was coined by Gass in 1978 when he described four healthy young women with characteristic ophthalmoscopic findings of slightly elevated, yellowish, juxtapapillary, choroidal tumour with sharp geographic borders.² These tumors demonstrate evidence of bone formation in the choroid and are believed to be choristomatous in origin.³ The majority of patients with choroidal osteoma maintain good vision. However, there is increasing probability of loss of vision with increasing duration of follow-up. In a follow-up study of 36 patients,

Figure 1 (a) Fundus photograph of the left eye. An amelanotic choroidal lesion with scalloped margins is evident in the superior macular region. Note retinal hemorrhages and sub retinal fluid involving the foveal region. (b). B-scan ultrasonograph demonstrating high reflectivity at the level of the choroid suggestive of calcium deposition. (c). Intravenous fluorescein angiogram (laminar venous phase). Patchy hyperfluorescence in the region of choroidal osteoma (arrows) and lacy hyperfluorescence (arrowheads) indicative of extrafoveal classic choroidal neovascularization. (d). Fundus photograph of the left eye following completion of PDT. A greyish subretinal fibrotic membrane is present in the treated area. Note resolution of retinal hemorrhages and subretinal fluid. (e). Intra venous fluorescein angiogram (laminar venous phase) following completion of PDT. Note the absence of lacy hyperfluorescence.

the probability of loss of visual acuity (6/60 or worse) was more than 50% by 10 years.⁴ Choroidal neovascularization is the most frequent cause of visual loss in choroidal osteoma with more than half of the patients expected to develop choroidal neovascularization.^{4,5}

Owing to lack of pigment in the tumour and atrophy of overlying retinal pigment epithelium, laser photocoagulation has limited efficacy (25%) in the treatment of choroidal neovascularization secondary to choroidal osteoma.⁴ PDT is independent of the intrinsic pigmentation and has the advantage of sparing overlying retina. Encouraged by the results of the TAP study¹ and a single case reported by Parodi,⁶ we performed PDT according to the TAP study protocol and achieved complete closure of choroidal neovascularization. Since the visual acuity was 6/9 and there was concern regarding the possibility of extension of the choroidal neovascular membrane into the foveal region, we performed PDT at closer intervals of 6 weeks rather than 12 weeks as per the TAP protocol. Our case illustrates that choroidal neovascularization secondary to a choroidal osteoma can be successfully treated with PDT.

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Sir,
Minimising the risk of iatrogenic intraocular damage

Saha and Price report a case of severe intraocular damage due to a Rycroft cannula flying loose during cataract surgery,¹ and suggest that the routine use of luer-lock syringes will reduce the risk of this. Similar adverse events have been reported previously.² The most important measure that can preclude such unfortunate occurrences is to handle all syringes bimanually while undertaking any intraocular manoeuvres. One hand controls the barrel and the plunger, and the other hand firmly grasps the hub of the cannula or needle at its attachment to the syringe. The second hand can thus feel a cannula giving way, if this were to occur, and prevent it flying loose into the eye. I have also found that the bimanual grasp improves the control and manipulation of the tip.

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Sir,
Correlation of lipid layer thickness measurements with fluorescein tear film break-up and Schirmer's test

I read with interest the article by Isreb *et al.*,¹ where they have positively correlated the lipid layer thickness with fluorescein tear film break-up time (FBUT) and Schirmer's test (STA).

Meibomian gland dysfunction (MGD) is a fairly common condition, and the reported prevalence at one study was 38.9%.² It is easy to guess therefore that it is one of the major causes of dry eye syndrome. It is therefore quite a useful study, and I would like to convey my appreciation to all the authors.

Meibum (Meibomian gland secretion) contains hydrocarbons, sterol esters, wax esters, triglycerols, free cholesterol, free fatty acids, and polar lipids (in decreasing order of abundance). Meibum melts at 35°C and is thus liquid at the surface of the eye.³ This property of the lipid layer is utilized in the treatment of dry eyes using hot compresses.⁴

The normal lipid layer thickness is stated to be ideally more than 120 nm, however, will a thickness of less than 60 nm alone with normal FBUT and STA be sufficient for a diagnosis of dry eye.²

Tandem scanning confocal microscopy is another modality for the assessment of the tear film and is thought to be more accurate than the method used by the authors. It would be nice to know the authors' opinion on this.

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