Optic nerve pit with serous macular detachment resulting in rhegmatogenous retinal detachment

G P Theodossiadis, Ch Koutsandrea, P G Theodossiadis

The pit of the optic nerve is a rare congenital abnormality which is accompanied by macular detachment at a rate of 30% to 45%. Long standing macular detachment associated with the pit of the optic nerve leads to the formation of cystic degeneration,^{1,2} lamellar macular holes,³ and retinal pigment epithelium atrophy.^{4,5}

Suggested treatments of serous macular detachment include: bed rest plus ocular patching; chorioretinal adhesions at the temporal border of the optic disc by means of photo-coagulation⁴; laser coagulation combined with intraocular gas tamponade with or without vitrectomy.^{6,7} The results of treatment so far have been inconsistent.

To the best of our knowledge we present the first case of a patient with an optic nerve pit and serous macular elevation who developed a full thickness macular hole and rhegmatogenous detachment.

Case report

In March 1986 we examined a 51-year-old white man with a 6 month history of reduced vision in the right eye. His visual acuity was 0.2 in the right eye and 1.0 in the left eye.

The right eye showed a temporal optic nerve pit associated with a sensory macular detachment. The macula appeared cystic. The pit was covered with vitreous strands. The patient was reluctant to submit to the recommended laser intervention which consisted in the application of two or three rows of confluent laser burns (200 μ m spot size) at the temporal margin of the optic disc. One year after the first examination the patient developed a lamellar macular hole. On 7 October 1987 he noted a sudden loss of vision of the right eye. On examination the fundus revealed a round full thickness macular hole accompanied by a rhegmatogenous retinal detachment, which started from the macula, covered the temporal and mainly the inferior part of the retina, and extended to the periphery 5–8 o'clock axis (Fig 1). The vitreous had a posterior detachment with some tiny residual vitreous strands at the papillomacular bundle.

Fluorescein angiography revealed, at the upper part of the papillomacular bundle, a pigment epithelial window defect. Thorough examination revealed no other tear or hole apart from that of the macula. We operated on the patient using a silastic sponge explant at the posterior pole, without any other kind of treatment (laser, diathermy, or cryotherapy). According to the procedure a silastic sponge of 7.5 mm was fixed at the posterior pole of the eyeball corresponding to the macula along the meridian of the 12–6 o'clock axis. The fixation of the upper end of the sponge corresponded to the posterior

Figure 1 Full thickness macular hole associated with pit of the optic disc and resultant rhegmatogenous retinal detachment.

edge of the insertion of the superior oblique muscle. The lower end was fixed temporally from the belly of the inferior rectus muscle.⁸ The retina flattened 48 hours after treatment and has remained completely flat until now (Fig 2). The right positioning of the silastic sponge in the macular area is clearly shown by B ultrasonography (Fig 3). VA at present measures 0.2.

Comment

The incomplete macular hole in cases of serous macular detachment associated with the optic nerve pit may very rarely result in a full thickness

Figure 2 The same case 4½ years after the successful intervention. The retina is in situ and the macular hole is in fact still just discernible. Note also the pigmentary changes in the vicinity of the macula. Pigment disturbance like this is a well recognised feature of chronic buckling of the retina without laser or cryocoagulation.

Athens University Eye Clinic, General Hospital of Athens, Athens, Greece
G P Theodossiadis
Ch Koutsandrea
P G Theodossiadis

Correspondence to:
Professor G P Theodossiadis,
Athens University Eye Clinic,
General Hospital of Athens,
154 Messoghion Street,
Cholargos, Athens, Greece.

Accepted for publication
9 December 1992

Figure 3 B scan ultrasonography 4½ years after the operation. Note the characteristic picture of the silastic sponge as well as the height of the chorioretinal indentation produced by the explant at the posterior pole. The location of the sponge seems to provide a barrier between the optic nerve pit and the macula.

macular hole leading to a rhegmatogenous retinal detachment, as happened in our case. This was probably due to a defect of the outer retinal layer and to the vitreous traction which was exerted in the macular area by the residual vitreous strands. The retina reattachment was achieved with the application of the macular buckling technique without the use of any kind of energy.⁸ This technique, in addition to pneumatic retinopexy, vitrectomy plus fluid/air exchange, and vitrectomy plus silicone oil tamponade, constitutes the techniques currently recommended for the management of retinal detachment caused by macular holes.⁹⁻¹³

The fact that no serous macular detachment occurred within the 4½ years after the intervention should be attributed to the maintenance of the macular scleral buckle and to its extension right up to temporal margins of the optic nerve,

thus preventing the fluid flow from the optic pit to the submacular space (Fig 3).

This procedure should be an alternative solution for the management of secondary macular elevation caused by the pit of the optic disc.

- 1 Gass JDM. Serous detachment of the macula secondary to congenital pit of the optic nervehead. *Am J Ophthalmol* 1969; 67: 821-41.
- 2 Brown GC, Tasman WS. *Congenital abnormalities of the optic disc*. New York: Grune and Stratton, 1983: 97-126.
- 3 Lincoff H, Lope R, Kreissig I, Yanuzzi L, Cox M, Burton T. Retinoschisis associated with optic nerve pit. *Arch Ophthalmol* 1988; 106: 61-7.
- 4 Theodossiadis G. Evolution of congenital pit of the optic disc with macular detachment in photocoagulated and non-photocoagulated eyes. *Am J Ophthalmol* 1977; 840: 620-31.
- 5 Theodossiadis GP, Panopoulos M, Kollia AK, Georgopoulos G. Long-term study of patients with congenital pit of the optic nerve and persistent macular detachment. *Acta Ophthalmol (Kbh)* 1992; 70: 495-505.
- 6 Cox MS, Witherspoon CD, Morris RE, Flynn HW. Evolving techniques in the treatment of macular detachment caused by optic nerve pits. *Ophthalmology* 1988; 95: 889-96.
- 7 Schatz H, McDonald R. Treatment of sensory retinal detachment associated with optic nerve pit or coloboma. *Ophthalmology* 1988; 95: 178-86.
- 8 Theodossiadis G. Treatment of retinal detachment due to macular holes without chorioretinal lesions (a seven years follow-up). *Trans Ophthalmol Soc UK* 1982; 102: 198-203.
- 9 Convers M, Machemer R. A new approach to treating retinal detachment with macular hole. *Am J Ophthalmol* 1982; 94: 668-72.
- 10 Leaver PK, Clary PE. Macular hole and retinal detachment. *Trans Ophthalmol Soc UK* 1975; 95: 145-9.
- 11 Scot JD. Macular holes and retinal detachment. *Trans Ophthalmol Soc UK* 1974; 94: 319-24.
- 12 Haut J, Van Effenterre G, Flamand M. Treatment of macular hole and retinal detachment with silicone oil, with or without argon laser photocoagulation. *Ophthalmologica* 1983; 187: 25-39.
- 13 Chignell AH, Billington B. The treatment of macular holes by means of pars plana vitrectomy and internal air/SF6 exchange. *Graefes Arch Clin Exp Ophthalmol* 1986; 224: 67-72.

British Journal of Ophthalmology 1993; 77: 386-387

Aspergillus terreus postoperative endophthalmitis

Taraprasad Das, Prateep Vyas, Savitri Sharma

Aspergillus endophthalmitis has been reported in drug abusers, in immunosuppressed hosts, following intraocular surgery, and after trauma. Usually *Aspergillus flavus*,¹⁻⁴ *Aspergillus fumigatus*,⁵ and *Aspergillus nidulans*^{6,7} are implicated as the offending organisms. Recently *Aspergillus terreus* endophthalmitis has been reported in a patient with chronic lymphocytic leukaemia.⁸ We describe a case of postcataract surgery *Aspergillus terreus* endophthalmitis who was successfully treated by vitrectomy, and intraocular and systemic antifungal antibiotics. To our knowledge this is the first reported case of postoperative endophthalmitis caused by this species of *Aspergillus*.

Case report

A 50-year-old man gave a history of uneventful intracapsular cataract extraction in left eye 4 weeks before presenting to us. His early post-

operative period was reported to be uneventful. Four weeks later he experienced pain, redness, and reduction in vision in the same eye. He was diagnosed to have postoperative endophthalmitis and referred for further management. On examination visual acuity in the operated eye was perception of light with accurate projection. The eye was relatively quiet with some hyperaemia of the conjunctiva. The cornea showed a small amount of stromal oedema with few keratic precipitates. The anterior chamber showed a moderate (2+) reaction. At the 6 o'clock position behind the iris in the anterior vitreous a white fluffy mass with feathery edges was seen (Fig 1A). A moderately good fundal glow was present with opacities in the mid vitreous and inferiorly. He was confirmed clinically to have postoperative endophthalmitis. After baseline renal function evaluation, intravenous gentamicin 80 mg three times a day and cefazolin 1 g four times a day was started. Topically 15% gentamicin and

LV Prasad Eye Institute and Hyderabad Eye Research Foundation, Hyderabad, India
T Das
P Vyas
S Sharma

Correspondence to:
Dr T Das, LV Prasad Eye Institute, Road No 2, Banjara Hills, Hyderabad - 500 034, India.

Accepted for publication
26 January 1993