Retinal detachment – Rhegmatogenous

DESCRIPTION

A retinal detachment occurs when the sensory retina lifts and separates from the pigment layer. Rhegmatogenous retinal detachment (RRD) refers to a detachment arising from a full thickness retinal break, which allows vitreous fluid beneath the retina. RRD is more likely to occur within a few days of posterior vitreous detachment (PVD), associated with vitreous liquefaction (synchysis senilis) and shrinkage (vitreous syneresis).

SYMPTOMS

Patients with RRD may have:

- Associated symptoms of PVD such as light flashes, 'spots', 'bugs' or 'spider webs' in vision
- Symptoms associated with vitreous bleeding such as a shower of floaters
- An awareness of the detachment, with a veil or curtain obstructing vision; 'wavy,' or 'watery' vision or experience a of sudden decrease in vision
- No symptoms, if the macula is not involved.

SIGNS

The key sign is an elevation of the retina from the retinal pigment epithelium (RPE) by fluid in the sub-retinal space. Indirect ophthalmoscopy with scleral depression may show the full-thickness retinal break or tear. The detached retina may be translucent and corrugated in appearance. Unlike an exudative detachment, the sub-retinal fluid does not shift with eye or head movements. There may be pigmented cells in anterior vitreous (tobacco dust, Shafer's sign) and an associated PVD or occasionally a vitreous haemorrhage. Intraocular pressure may be relatively reduced in the affected eye and an afferent pupillary defect may be noted if the detachment is severe. If the RRD is long standing, there is often a pigmented demarcation line at the posterior extent of the detachment. There may also be associated intraretinal cysts or white sub-retinal precipitates.

PREVALENCE

Rare (approximately 1/10,000). Higher in defined risk groups including patients with moderate to high myopia, previous eye surgery, or serious eye injury.

SIGNIFICANCE

RRD can cause devastating damage to vision or blindness if untreated.

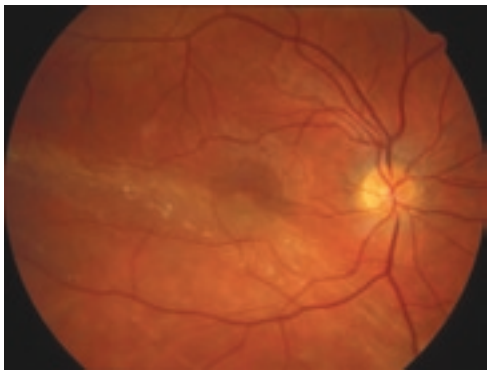

Figure 1 Acute inferior RRD extending to the macula, requiring urgent treatment to preserve macular function. Visual acuity was 6/12 and there was a superior field defect. The detachment is shallow leaving in focus the retinal vessels that traverse the detachment. There were peripheral retinal holes not shown

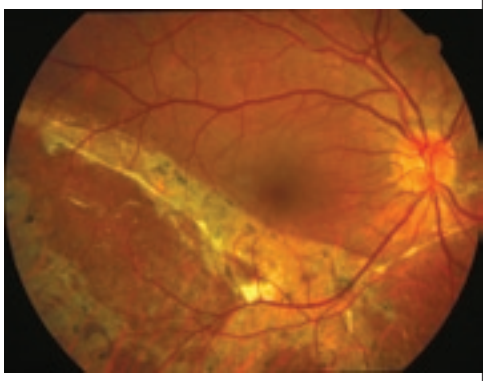

Figure 2 Chronic inferior RPE damage from prior RRD which has been successfully reattached. The previous area of retinal detachment extended in a line to a point just below the macula

DIFFERENTIAL DIAGNOSIS

Retinoschisis – Acquired degenerative, Retinoschisis – Juvenile X-linked, Choroidal detachment, Retinal detachment – Exudative, tractional.

SEE ALSO

Retinal detachment – classification, Lattice degeneration.

MANAGEMENT

Urgent

Acute RRD in which the macula is not yet involved is an ocular emergency that requires immediate assessment and possible surgery. If the RRD is chronic, or if the macula has already detached, then it should be treated within days.

Additional investigations

B-scan ultrasound may be required to assess the retina if it is obscured by media opacities.

Laser surgery

Laser photocoagulation is one treatment option, or may be used in combination with other treatments such as pneumatic retinopexy.

Incisional surgery

Appropriate treatment depends on the type, severity and location of the detachment. Surgical options include cryotherapy, vitrectomy, scleral buckle and pneumatic retinopexy. Scleral buckle may be combined with a vitrectomy and laser or cryotherapy. Pneumatic retinopexy may take several weeks and require the patient to keep their head in a specific position.

Advice

Bed rest is indicated until surgery is performed for acute RRD threatening the fovea. Patients at risk of retinal detachment in their other eye should attend immediately if they notice any retinal detachment symptoms (as above). Patients should conduct monocular checks of their vision (alternate covering of each eye).

Prognosis

Elapsed time until treatment, and whether or not the macula is attached, significantly affect the chances of functional vision after surgery.

The full series of these articles is available in the book *Posterior Eye Disease and Glaucoma A-Z* by Bruce AS, O'Day J, McKay D and Swann P. £39.99. For further information click on the Bookstore at **opticianonline.net**

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