Short communication

Exudative retinal detachment and primary pulmonary hypertension


Servicio de Oftalmología, Hospital General Universitario de Alicante, Alicante, Spain

ARTICLE INFO

Article history:
Received 8 April 2011
Accepted 8 April 2012
Available online 29 June 2013

Keywords:
Pulmonary hypertension
Exudative retinal detachment
Primary pulmonary hypertension
Dyspnea
Furosemide

ABSTRACT

Case report: A 60-year-old woman who was seen in the emergency department due to sudden loss of vision in left eye. The fundoscopy study showed exudative retinal detachment. The patient referred to dyspnea and peripheral edema of one-year duration during the anamnesis. The systematic study revealed the existence of pulmonary hypertension, and she was given diuretic treatment (furosemide). After 48 h the detachment was resolved. Subsequent studies identified a primary pulmonary hypertension.

Discussion: Exudative retinal detachment can be the first clinical sign of a serious disease like primary pulmonary hypertension. The ophthalmologist can be the first to detect this disease.

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Desprendimiento de retina exudativo e hipertensión pulmonar primaria

RESUMEN

Caso clínico: Mujer de 60 años que acudió de urgencia por pérdida súbita de visión en ojo izquierdo. El estudio fundoscópico mostró desprendimiento de retina exudativo. En la anamnesis refería disnea de un año de evolución y edemas periféricos. El estudio sistémico reveló la existencia de hipertensión pulmonar recibiendo tratamiento diurético (furosemida), El desprendimiento se resolvió a las 48 h. Estudios posteriores determinaron una hipertensión pulmonar primaria.

Discusión: El desprendimiento de retina exudativo puede ser el primer signo clínico de una enfermedad grave como la hipertensión pulmonar primaria. El oftalmólogo puede ser el primero en detectar esta enfermedad.

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* Corresponding author.

E-mail address: sanchez.se@hotmail.com (J.L. Sánchez-Sevilla).

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Introduction

Exudative retinal detachment can be due to different ocular and extraocular causes. Primary pulmonary hypertension is a disease of unknown etiology that can exhibit a diversity of ophthalmological expressions as the result of diminished venous flow caused by increased systemic venous pressure.

Case report

Female, 60, who visited the Emergency Service due to blurred vision in the left eye with a few hours of evolution and without the relevant symptoms. She did not refer arterial hypertension history or diabetes mellitus.

The ophthalmic assessment gave a visual acuity of 1 in the right eye and of 0.1 in the left eye which did not improve with correction. Under biomicroscopic exploration, the anterior pole was observed to be normal, the same as the right eye ocular fundus. However, the left eye exhibited retina detachment in the macular area and temporal retinal area (Fig. 1) compatible with serous detachment. After 24–36 h of the blurred vision onset, fluorescein angiography and optic coherence tomography (OCT, Stratus Carl Zeiss) were taken. The angiography showed contrast aggregation in the perimacular area of the left eye which was more evident in late phases (Fig. 2). The OCT in the right eye was normal, while the left eye exhibited neurosensory detachment at the macular level with subfoveal liquid and intraretinal edema (Fig. 3). After performing a new anamnesis, the patient referred dyspnea when carrying out medium efforts as well as lower limb edema under one year of evolution. Accordingly, the cardiology and pneumology services were consulted. A systemic study revealed the existence of pulmonary hypertension, whereupon treatment was established with furosemide (approximately 48 h after the onset of diminished vision). The retina detachment resolved entirely 48 h after beginning the diuretic treatment (Figs. 4 and 5). After completing the study, it was concluded that the condition was primary pulmonary hypertension and vasodilating therapy was established. Three months after the episode, the

Fig. 1 – Exudative retina detachment in the left eye.

Fig. 2 – Left eye fluorescein angiography with aggregation of perimacular contrast in late phases.

Fig. 3 – Left eye optic coherence tomography with neurosensory detachment at the macular level and intraretinal edema.
visual acuity in the left eye is of 0.9 and the patient remains stable, in follow-up by pneumology.

**Discussion**

Primary pulmonary hypertension is a disease of unknown etiology characterized by an increase of pulmonary pressure above 25 mmHg at rest and of 30 mmHg while exercising due to vasoconstriction of the pulmonary vascular tree.1,2

Predisposing genetic factors associated to familial cases with dominant autosomic inheritance has been identified.3-5

In what concerns pathogeny, histological and functional alterations of endothelial cells of pulmonary blood vessels have been identified.1

Pulmonary hypertension gives rise to right side cardiac insufficiency, increase of systemic, orbital and episcleral venous pressure with outgoing venous flow reduction, producing ocular complications.3

Said ocular expressions include dilatation of the conjunctival and episcleral veins,2 central retina vein occlusion, foveal effusion with choroidal detachment, intraocular pressure increase (open angle secondary glaucoma) and exudative retinal detachment.2,3 In addition, cases with subacute myopia and exophthalmos have been described.5

Exudative detachment arises due to the inability of the retinal pigment epithelium to pump the excess liquid which accumulates in the subretinal space due to increased hydrostatic pressure in the choriocapillary.3

Therapeutic options are based on vasodilating therapy, support therapy and pulmonary transplant as the last resource.1 Diuretics have a beneficial effect on patients with pulmonary hypertension, particularly in those with right ventricle failure and systemic venous congestion as in the patient of this report.

The significance of this case resides in the role of the ophthalmologist to suspect major systemic diseases on the basis of ocular signs.
Conflict of interests

No conflict of interest has been declared by the authors.

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