

SHORT COMMUNICATION

Simultaneous bilateral retinal detachment following coronary artery bypass graft: Case report

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PURPOSE. To present an unusual case of simultaneous bilateral retinal detachment (RD) following a coronary artery bypass graft in a patient with acute myocardial infarction (AMI).

METHODS. A 78-year-old man was first seen for bilateral sudden visual loss after surgical treatment of AMI. The patient underwent ultrasound biomicroscopy (UBM) and ocular B-scan echographic examination.

RESULTS. The ocular assessment showed a bilateral seclusion of the pupil with bombé of the iris, an anterior chamber without cells or flare, and hypotonia. The evaluation of the visual acuity revealed no light perception in the right eye (RE) and uncertain light perception in the left eye (LE). The UBM analysis of the anterior segment confirmed the presence of bilateral pupillary block due to the seclusion of the pupil and a peripheral serous choroidal detachment involving the RE. The echographic B-scan analysis of the posterior segment showed a bilateral closed funnel-shaped RD and confirmed the presence of the peripheral flat serous choroidal detachment in RE.

CONCLUSIONS. The cause for simultaneous bilateral RD remained unclear. It may have been a consequence of a persistent choroidal detachment with multiple swelling and "kissing" of retinal surface. The increased venous pressure caused by congestive heart failure due to AMI could have caused a bilateral uveal effusion. Alternatively, the absence of retinal tears, the presence of a closed funnel-shaped morphology, and seclusion of the pupils allowed us to suspect an exudative pathogenetic mechanism due to a previous unrecognized ocular inflammatory state. (*Eur J Ophthalmol* 2007; 17: 860-3)

KEY WORDS. Closed funnel-shaped retinal detachment, Coronary artery bypass graft, Seclusion of the pupil, Simultaneous bilateral retinal detachment

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INTRODUCTION

Simultaneous bilateral retinal detachment (RD) constitutes a very rare clinical condition which has usually been observed in relatively young myopic patients. Over the past two decades about 39 episodes of simultaneous bilateral RD have been described in the literature. Reviewing the case reports related to bilateral involvement published from 1989 to 2006, we recorded 36 episodes due to reti-

nal holes (1-3), one case due to chronic rheumatoid arthritis (4), one case following external-beam radiotherapy for a tumor at a non-ocular target site (5), and one case due to bacterial-viral infection (6). The pathogenetic mechanisms involved in the episodes of simultaneous bilateral RD which have been described are rhegmatogenous (1-3, 5) and exudative forms (4, 6). To our knowledge no cases following heart surgery for acute myocardial infarction (AMI) and with a simultaneous bilateral closed funnel-

Fig. 1 - Seclusion of the pupil with bombé of the iris and cataract involving the right eye (top) and the left eye (bottom).

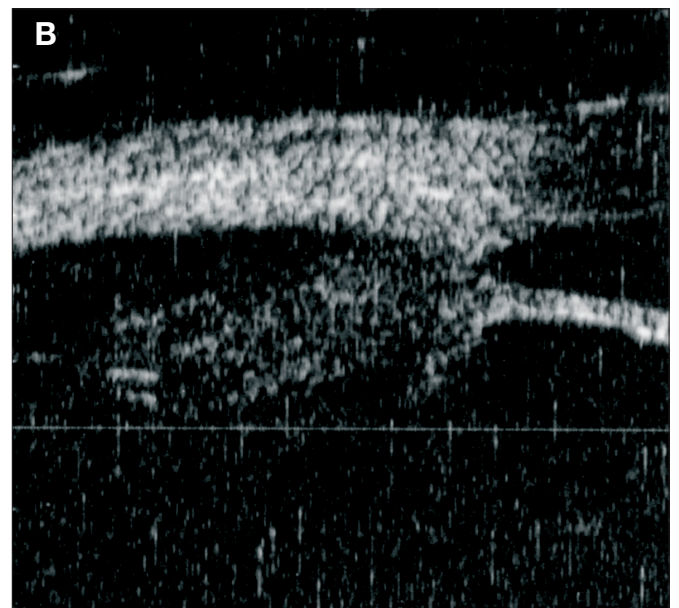
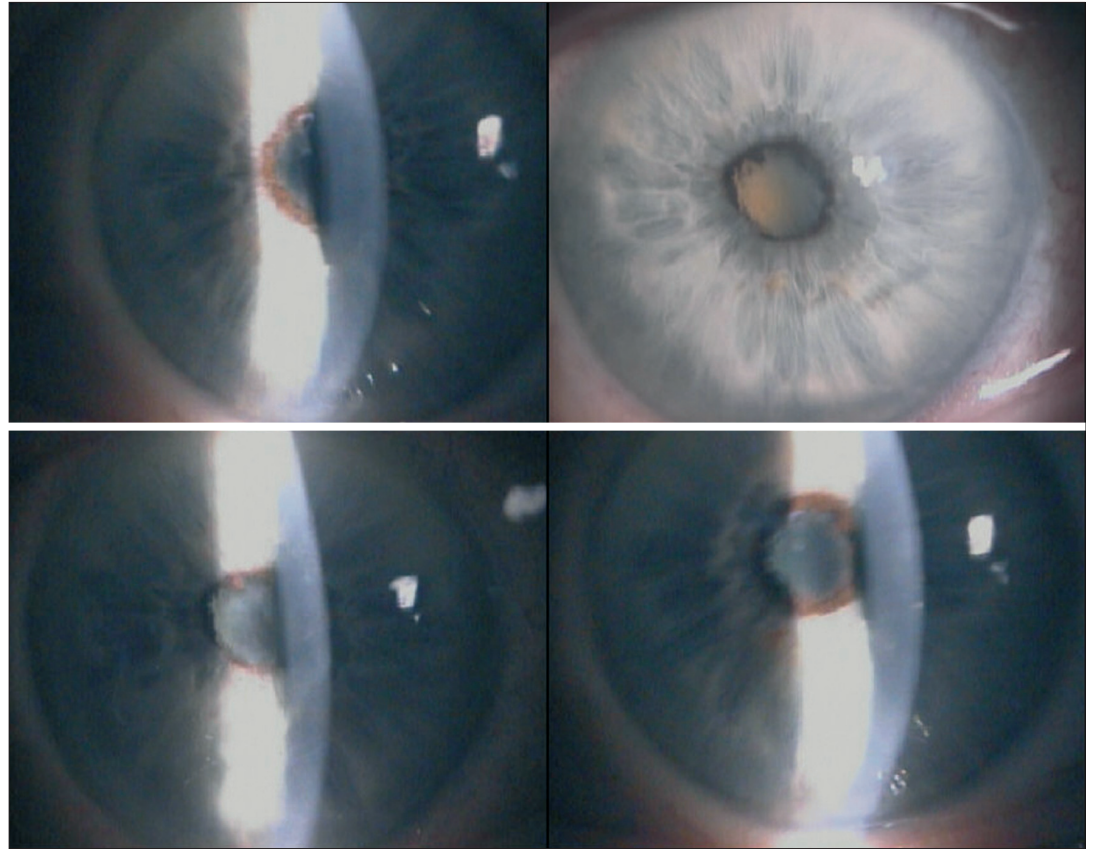


Fig. 2 - The ultrasound biomicroscopy shows an anterior convexity of the iris, whose conformation indicated the presence of a pupillary block, with posterior synechiae involving the whole circumference of the pupil and without anatomic obliteration of the trabeculum (A). The right eye presents a peripheral serous choroidal detachment involving the ciliary body (B).

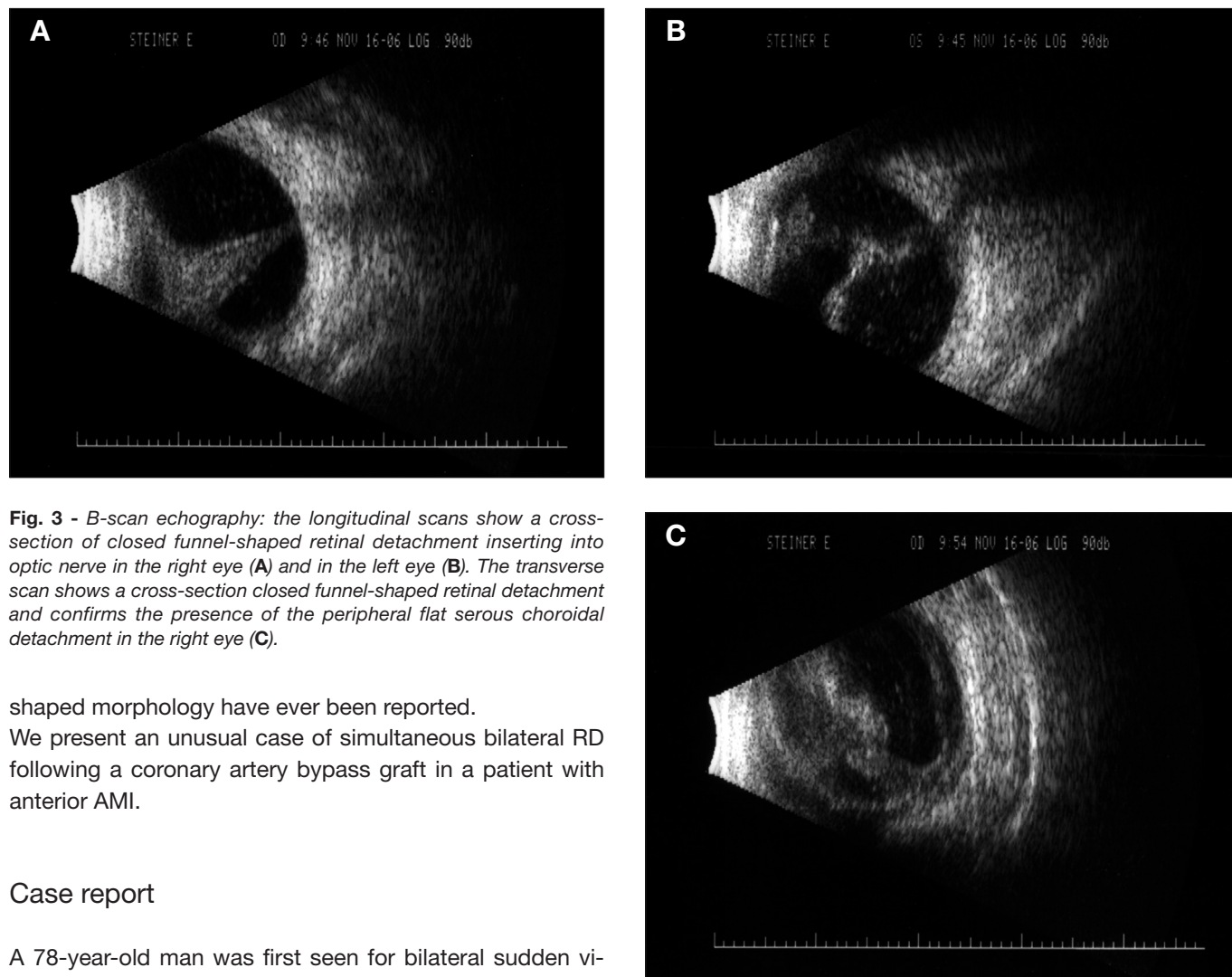


Fig. 3 - B-scan echography: the longitudinal scans show a cross-section of closed funnel-shaped retinal detachment inserting into optic nerve in the right eye (A) and in the left eye (B). The transverse scan shows a cross-section closed funnel-shaped retinal detachment and confirms the presence of the peripheral flat serous choroidal detachment in the right eye (C).

shaped morphology have ever been reported. We present an unusual case of simultaneous bilateral RD following a coronary artery bypass graft in a patient with anterior AMI.

Case report

A 78-year-old man was first seen for bilateral sudden visual loss after surgical treatment of AMI. The patient reported the absence of previous systemic pathologies, except for systemic hypertension and hypercholesterolemia, or ocular diseases responsible for lowering of visual acuity and had never been treated with medical therapy. The ocular assessment of the anterior segment, which was performed 1 month after heart surgery because the patient had been bedridden in a state of drug-induced unconsciousness for 1 month, showed a bilateral seclusion of the pupil with bombé of the iris, an anterior chamber without cells or flare, and hypotonia (intraocular pressure values of 5 mm Hg). The funduscopy was impeded by bilateral cataract and myosis due to posterior synechiae with seclusion of the pupils (Fig. 1). The evaluation of the visual acuity revealed no light perception in the right eye (RE) and uncertain light perception in the left eye (LE). Echographic analysis of the anterior segment, which was performed us-

ing ultrasound biomicroscopy (UBM model 840, Zeiss-Humphrey Inc., San Leandro, CA), confirmed the presence of bilateral pupillary block due to the seclusion of the pupil. The UBM showed an anterior convexity of the iris, whose conformation indicated the presence of a pupillary block, with posterior synechiae involving the whole circumference of the pupil and without anatomic obliteration of the trabeculum. Furthermore, the RE presented a peripheral serous choroidal detachment involving the ciliary body (Fig. 2). The posterior segment of both eyes was evaluated with a focused B-Scan transducer which employs logarithmic amplification and a frequency of 10 MHz (I³ System-ABD, Innovative Imaging, Inc., Sacramento, CA). The echographic analysis showed a bilateral closed funnel-shaped RD and confirmed the presence of the peripheral flat serous choroidal detachment in RE (Fig. 3).

DISCUSSION

The cause for simultaneous bilateral RD remained unclear and could be explained by the following hypothesis: 1) It may have been a consequence of a persistent choroidal detachment with multiple swelling and “kissing” of retinal surface. The increased venous pressure caused by congestive heart failure due to AMI could have caused a bilateral uveal effusion. 2) The absence of retinal tears, the presence of a closed funnel-shaped morphology, and seclusion of the pupils allow us to suspect an exudative pathogenetic mechanism due to a previous unrecognized ocular inflammatory disease.

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