

Exudative macular detachment after an uncomplicated cataract surgery: a case report

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RESUMO

Introdução: as anomalias transitórias da permeabilidade vascular estão bem documentadas após a cirurgia de catarata, sendo frequentemente auto-limitadas. A manifestação típica abrange desde a exsudação sub-clínica ao edema macular clinicamente significativo, sendo este último mais frequente na presença de factores de risco.

Objetivos: Os autores reportam um caso clínico de descolamento exsudativo da retina e edema macular no pós-operatório imediato de uma cirurgia de catarata por faco-emulsificação sem complicações, num doente sem factores de risco.

Material e métodos: caso clínico de doente de 72 anos, sexo masculino, sem antecedentes relevantes oftalmológicos ou outros, submetido a cirurgia de catarata do olho direito por faco-emulsificação e colocação de lente intra-ocular no saco capsular, sem complicações cirúrgicas. 24 horas após a cirurgia, observou-se um extenso descolamento seroso do polo posterior e edema macular cistóide. Na angiografia fluoresceínica detectaram-se múltiplos locais de “leakage”. Optou-se pela observação e medicação com acetazolamida oral e nepafenac tópico, com total resolução do quadro clínico após 1 mês. A acuidade visual melhor corrigida final foi de 10/10.

Discussão e conclusão: a permeabilidade vascular alterada após a cirurgia de catarata é frequente, mesmo em doentes sem factores de risco para edema macular. Pode resultar não apenas em manifestações sub-clínicas ou clínicas de edema intra-retiniano, mas também em acumulação de fluido subretiniano. O caso apresentado é raro pela precocidade da manifestação e extensão do fluido subretiniano, num doente sem factores de risco.

Palavras-chave

Cirurgia de catarata, edema macular, retina, pseudofaquia.

ABSTRACT

Introduction: transient vascular permeability anomalies are a well-documented complication occurring after cataract surgery, most often with a self-limited course. The usual presentation ranges from sub-clinical exudation to clinically significant macular edema, with the latter most common in patients with risk factors.

Objectives: The authors report the clinical case of an exudative posterior pole detachment with macular edema, in the first 24h after an uncomplicated cataract phaco-emulsification, in a patient with no known risk factors.

Case report: the authors describe the case of a 72 year-old male patient, with no previous relevant systemic or ocular history, that was submitted to cataract surgery, with phaco-emulsification

and in-the-bag IOL placement, without any surgical complications. 24 hours after the procedure, the patient presented with an extensive posterior pole serous detachment as well as cystic macular edema. Fluorescein angiography revealed multiple leakage areas. The authors opted for a conservative approach, with oral acetazolamide and topical nepafenac and a complete resolution was observed after 1 month. Final best corrected visual acuity was 10/10.

Conclusions: transient vascular permeability changes after cataract surgery are frequent, even in patients with no risk factors for macular edema. It may result not only in sub-clinical or clinical macular edema, but also in subretinal fluid accumulation. The clinical case that we report is unusual, due to the precocity of its manifestation and amount of subretinal fluid accumulation, in a patient with no known risk factors.

Keywords

Cataract surgery, macular edema, retina, pseudophakia.

INTRODUCTION

Transient vascular permeability anomalies are a well-documented complication occurring after cataract surgery¹. The usual presentation is pseudophakic macular edema (PME), which most frequently occurs 4-6 weeks after the procedure², with an increased risk in patients with diabetic retinopathy, uveitis or epiretinal membranes, or in surgeries with complications, such as iris trauma or posterior capsule rupture with vitreous loss^{3,4}. The classical presentation is a petalloid cystic macular edema (CME), with leakage detectable on fluorescein angiography (FA), suggesting increased capillary permeability due to loss of the blood-retinal barrier^{5,6} and/or prostaglandin-induced inflammation⁷. Most patients will have a spontaneous resolution of edema within 3-4 months, with only a minority having decreased visual acuity due to PME². The authors report the clinical case of an exudative posterior pole detachment with macular edema, in the first 24h after an uncomplicated cataract phaco-emulsification, in a patient with no known risk factors.

CASE REPORT

The authors describe the case of a 72 year-old male patient, with no previous relevant systemic or ocular history, that was submitted to cataract surgery, with phaco-emulsification and in-the-bag IOL placement, without any surgical complications. Pre-operative examination revealed a best corrected visual acuity (BCVA) of 2/10 and a posterior subcapsular cataract, with no structural changes visible in the fundus or in the Optical Coherence Tomography

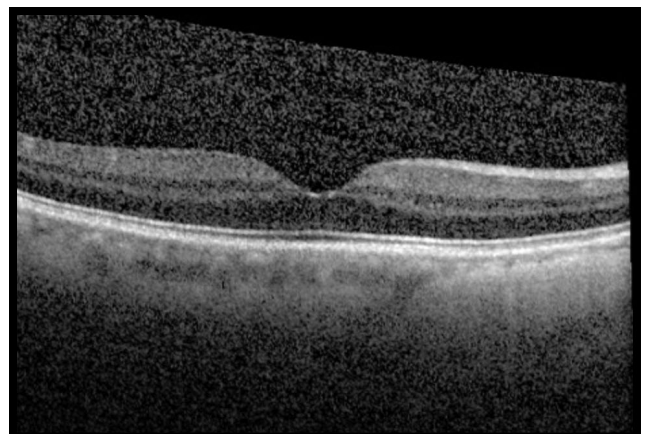


Fig. 1 | Pre-operative OCT 1 week before the procedure.

(OCT) examination (fig.1). The patient was prescribed a post-operative topical treatment with flurbiprofene (qid), dexamethasone (5id), ofloxacin (5id) and gentamicin ointment at night. 24 hours after the procedure, the patient presented with complaints of painless blurry vision and metamorphopsia. BCVA was, at this time, less than 1/10. Anterior segment examination did not reveal any relevant changes, and no relevant corneal edema. An OCT examination was performed (fig.2), and an extensive complete posterior pole serous detachment was diagnosed, with various “pockets” of subretinal fluid extending beyond the vascular arcades (fig.2a). Accompanying the detachment, there was a significant cystic macular edema, between the outer nuclear and plexiform layers (fig.2b). FA was performed 48-hours after the surgery (fig.3), showing multiple leakage areas both in early and late phases, corresponding to the areas with greater subretinal fluid accumulation visible on the OCT exam. The authors opted for a conservative approach,

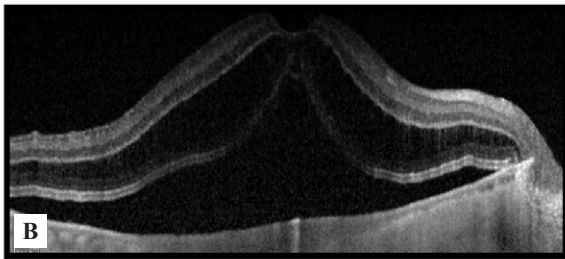
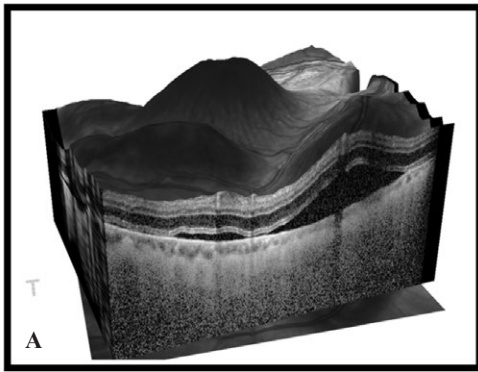


Fig. 2 | A) 3D posterior pole reconstruction, showing an almost complete serous macular detachment. B) b-mode OCT, in which cystic edema in the outer plexiform and nuclear areas can be appreciated.

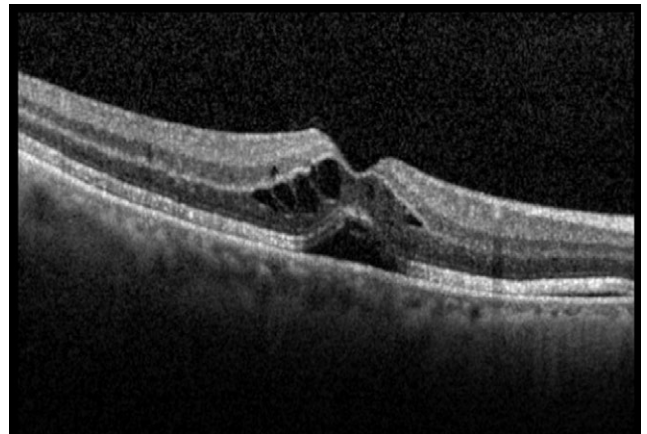


Fig. 4 | b mode OCT 72h after surgery.

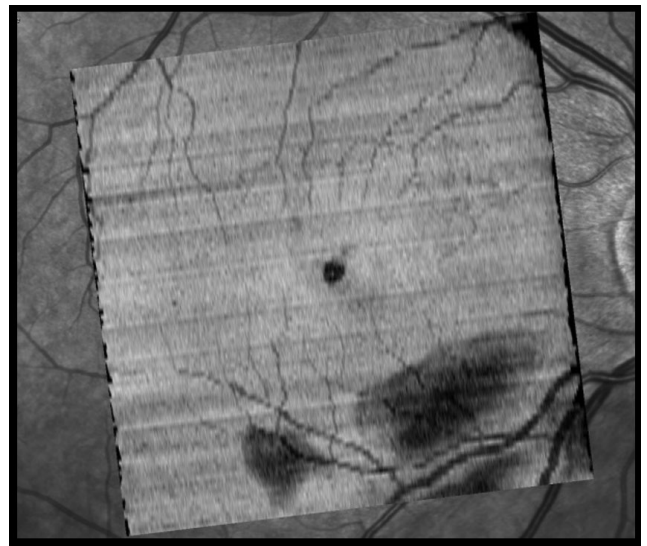


Fig. 5 | en face OCT 10 days post-op, showing residual subretinal fluid in the inferior arcades.

with close *follow-up* and oral acetazolamide (250mg 2id) and topical nepafenac (3mg/ml 3id). In the first 72 hours of therapy, almost complete re-attachment was confirmed, with subfoveal fluid remaining (fig.4) and partial resolution of the macular edema. At this time, BCVA improved to 8/10. 10 days after surgery, the intraretinal edema resolved completely, with only residual areas of subretinal fluid in the inferior temporal retina (fig.5). Complete resolution was observed 1 month after surgery, and final BCVA was 10/10 (fig.6).



Fig. 3 | Retinography and FA – early and late phases. Leakage areas can be detected, corresponding to the areas of greater exudative detachment.

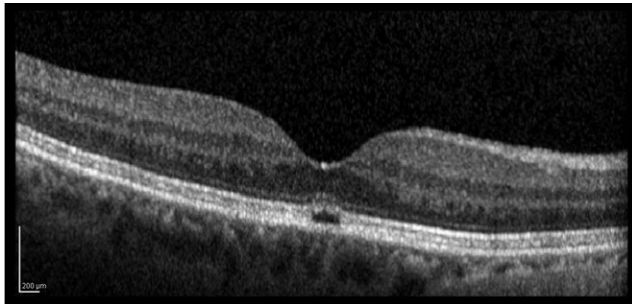


Fig. 6 | b mode OCT 1 month after surgery.

DISCUSSION

Transient vascular permeability changes after cataract surgery are a possibility, even in patients with no risk factors for macular edema. Even with modern phaco-emulsification cataract surgery, authors report an incidence of clinical CME of 0.1 – 2.35%^{3,8}. Accompanying intraretinal edema, variable amounts of subretinal fluid can be found, as happens with other causes of macular edema⁹. Cystic edema is most often found in relation to the outer plexiform layer^{2,9}, similar to what we observed in our case. The clinical case that we report is unusual, due to the precocity of its manifestation (24 hours after the procedure), the extensive amount of subretinal fluid that accumulated, absence of risk factors and the uncomplicated surgery performed. It should also be considered that the widespread availability of OCT technology may increase the feasibility of high-resolution retinal imaging in the early post-operative *follow-up*, even in patients with common complaints such as blurry vision. This symptom could have easily been explained by other transient post-operative anterior segment findings, and therefore ignored until a later time. Perhaps the diagnosis of extreme and infrequent cases such as ours was previously not possible or presently ignored. The fact that only 1-2% of pseudophakic CME progress beyond the first 12-months² reinforced our presumption of a good prognosis for our case. Therefore, our choice of therapy was topical NSAIDs and oral acetazolamide, as for a standard pseudophakic macular edema.

CONCLUSIONS

Transient permeability changes after cataract surgery are variable and frequently resolve spontaneously. OCT is

a valuable tool in the assessment of these clinical pictures, complemented by standard angiographic examinations. In spite of the extensive amount of posterior pole detachment in this case, the authors obtained an ideal functional result with minimal intervention, presuming a benign and self-limited course.

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Os autores não têm conflitos de interesse a declarar.

Trabalho não publicado cedendo os direitos de autor à Sociedade Portuguesa de Oftalmologia.

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