Reviewer’s report

Title: A case of phacolytic glaucoma with anterior lens capsule disruption identified by scanning electron microscopy

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Reviewer: Ivano Riva

Reviewer’s report:

This is a short and interesting case-report describing a case of phacolytic glaucoma, in which anterior capsule disruption was demonstrated at electron, but not optical, microscopic examination, after intracapsular cataract extraction. The paper is well written, however English language needs revision before publication. Some extra points need to be addressed.

Major Compulsory Revisions

Comment #1: Cataract extraction in patients affected by phacolytic glaucoma is very challenging, due to high intraocular pressure, corneal edema, risk of expulsive hemorrhage, very hard nucleus and frequent zonulolysis. Extracapsular cataract extraction, more than intracapsular cataract extraction, is considered the surgery of choice in these cases, due to the minor risk of complications and the possibility to put the IOL into the capsular bag. The use of trypan blue may facilitate capsulorhexis, achieving good results. On the other hand, many surgeons employed phacoemulsification technique even in patients with mature cataract, but no reports are known to the reviewer on phacoemulsification technique employed in eyes with white cataract and phacolytic glaucoma. Please discuss the topic with pertinent literature references and justify the choice of your surgical technique.

Comment #2: Intracapsular cataract extraction is a quite traumatic surgical technique. Several methods have been described to extract the lens with its capsular bag, for example using capsular-holding forceps or cryogenic probes. Authors didn’t provide informations about the specific surgical technique used. A traumatism of the anterior capsule may be a consequence of surgery, for example due to capsule-holding forceps, in absence of macroscopic rupture. The major difference between light and electron microscopy lies in how much details can be seen with each method. This difference comes from the very dissimilar sources of illumination that are used by the two methods. Electron microscopy is more powerful and can achieve more resolution. So it is not surprising that some details may be detectable only with electron microscope. Capsule disruption could be a consequence of surgery, and not a factor implicated in glaucoma etiopathogenesis. Authors should explain the specific surgical technique used and discuss the possibility of a capsular traumatism during surgery.

Comment #3: Lines from 109 to 119 repeat what Authors have already said in the result section. Please revise the discussion of the manuscript, deleting
repetitions and debating the previously suggested points.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests