Capsular bag distention syndrome
Síndrome de distensión del sacocapsular

Dear Sir,

The article published by Martínez de la Casa et al (1) describing a series of two patients with malign glaucoma as a complication after phacoemulsification and implant of Ahmed's valve attracted my attention.

I would like to contribute a possible differential diagnostic not mentioned by the authors and which frequently goes unnoticed, such as the capsular bag distention syndrome. This syndrome is characterized by the appearance of an optically empty space or with milky content (lactocrumenasia) between the posterior face of the intra-ocular lens and the posterior capsule. It has been described after phacoemulsification and cataract-glaucoma combined surgery. Mc Queen (2) described one case after cataract-Ahmed valve implant combined surgery.

Recently, we have published a series of 4 cases which occurred after cataract-glaucoma combined surgery (two after phacoemulsification and Ahmed valve implant) (3).

The pathogeny of this syndrome appears in relationship to the combination of capsulorhexis of a smaller size than the optical zone of the intra-ocular lens and the retention of viscous-elastic or cortical material of the lens within the capsular bag. This tightening of the orifice of the capsulorhexis prevents the exit of said material which, due to the osmotic effect, attracts liquid from the vitreous area thus causing a progressive curving of the capsular bag, with the ensuing anterior iris-lens displacement and reduction of the dimension of the anterior chamber. All this is accompanied by induced myopia which disappears when the syndrome is resolved. Said four cases were resolved with posterior capsulotomy, although we considered the possibility of an anterior capsulotomy over the edge of the capsulorhexis which would release the retained material to the anterior chamber.

This syndrome is frequently overlooked if the pupil is not broadly dilated because it is difficult to detect with a normal-sized pupil the posterior limit of the posterior capsule, which is displaced far backwards. On the other hand, in combined surgery it is not unusual to find a reduction of the anterior chamber for other reasons, which leads us to overlook this infrequent cause.

Similarly to the cases presented by Dr. Martínez de la Casa, the capsular bag distention syndrome is accompanied by a reduction of the width of the anterior chamber and IOP increase. Likewise, it is resolved by posterior capsulotomy although, in contrast with malign glaucoma, a hyaloidotomy is not required. Even though malign glaucoma is more frequent in eyes with small angles such as those described by the authors, this condition is not described as being associated to the capsular bag distention syndrome.

In summary, within a differential diagnostic of post-op athalamia after glaucoma-cataract combined surgery, the possibility of a capsular bag distention syndrome should also be taken into account. Posterior capsulotomy will resolve completely this condition but it must also be linked to hyaloidotomy in malign glaucoma, as the authors of the article I mention aptly describe.

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Reply

Dear Sir,

We appreciate the interest of Dr. Muñoz Negrete in our article (1). The capsular bag distention syndrome (CBDS) is certainly a complication which may appear after any surgery which carries out an extra-capsular extraction of the lens with intra-ocular lens implant. It has been described after anterior capsulotomies as well as continuous circular capsu-

lorhexis. The type of viscous-elastic utilized during surgery has also been related to the physiopathogeny of CBDS. The utilization of high viscosity dispersive or cohesive viscoelastics for IOL implants seems associated to increased rates of this complication.

Said clinical picture could be in fact included among the possible causes of athalamia with hypertone, although the majority of cases evolve to moderate flattening of the anterior chamber and moderate high pressures. This means that many of these cases are diagnosed only months or years after surgery. In the series of four cases published by Muñoz-Negrete and Rebolleda (2), only one patient exhibited pressures over 20 mmHg. This combined surgery patient (phacoemulsification plus Ahmed drainage implant) present immediately post-op anterior uveitis with posterior synechiae and hypemia which could justify the considerable increase of intra-ocular pressure, a fact which is confirmed by the excellent response to treatment with topical and systemic corticoids.

In contrast, malign glaucoma (just like the other causes of athalamia with hypertone mentioned in the text), evolve with marked flattenings in the anterior chamber and much higher pressures than those described in the majority of CBDS cases.

In our centre, in the combined drainage implant + phacoemulsification, the tube is inserted in the posterior chamber and midriatics are recommended for the first post-op days, for monitoring a possible obstruction of the mouth thereof and analyzing with ease the relation between the capsulorhexis, the intra-ocular lens and the posterior capsule, and therefore detect the existence of CBDS of enough importance to modify said post-op sequence (3).

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