Management of the Posterior Capsule in Congenital Cataracts

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The management of the posterior capsule at the conclusion of extracapsular lens extraction in congenital cataracts continues to be somewhat controversial. Additional questions, including the need for anterior vitrectomy, the amount of the vitreous to be removed, and the potential problem of cystoid macular edema (CME) might also be considered under this heading.

Prior to the development of vitreous suction-cutting instruments the accepted techniques of aspiration as described by Scheie and by Parks resulted in an intact posterior capsule surrounded by an open anterior capsule. This led to an extremely high incidence of secondary membranes and the development of posterior synechia between the iris and the "sticky" anterior surface of the posterior capsule. The possibility of iris bombe required that a sector iridectomy be carried out. In a series of 64 patients with cataracts whom I treated during the years 1971 to 1975, there were 77 primary lens aspirations done. Twenty-nine patients (47%) required one or more operations to remove secondary membranes. This resulted in an additional 31 operations for a total of 108 operations done on these 64 patients. In addition to requiring further general anesthetics and repeated operations, the delay in anti-amblyopia therapy was significant and undoubtedly was part of the poor visual results seen in these patients with unilateral and bilateral congenital cataracts.

In 1975 we began using a vitreous suction-cutting instrument (Douvas rotoexactor) and initially attempted to only remove the anterior capsule leaving the posterior capsule intact. This resulted in further problems with posterior synechia formation and the development of either an early fibrous secondary membrane from fibroplastic downgrowth from the iris or a later occurring lens cell proliferation marching across the posterior capsular bridge. In those cases where the posterior capsule was inadvertently ruptured and vitreous entered into the anterior chamber, it was possible to remove the vitreous...
from the plane anterior to the iris and it became apparent quite quickly that these patients did not develop the same problems seen in those patients with an intact posterior capsule. For this reason, I began removing the posterior capsule as a routine part of the technique but would only remove the vitreous which presented anterior to the iris plane. The “sticky” surface of the posterior capsule was obviously part of the problem with posterior synchia formation. By leaving a portion of the anterior capsule just beneath the dilated pupil and removing the posterior capsule more peripherally beneath it, we found that we could prevent the posterior synchia formation and, thereby, do away with the need for either sector or peripheral iridectomy.

The problem as to how to treat the anterior vitreous may still not be totally resolved. At the present time I remove only that vitreous which is necessary due to anterior displacement of the vitreous into the anterior chamber and/or that vitreous which is removed when the posterior capsule is excised. I make no attempt to spare the vitreous face since I have been impressed that in these young patients, the vitreous appears to reform so that six months to a year after cataract removal, slit lamp examination will reveal what appears to be a “normal” vitreous face in spite of the fact that vitreous was obviously removed at the time of surgery.

The question of cystoid macular edema (CME) has been of great concern since the report of Hoyt and Nickel* that there was a high incidence of CME following vitrectomy in children. We have not been able to confirm this finding in our patients and this may be due to the fact that we try to remove only the least amount of vitreous necessary. It is still not clear that the anterior vitrectomy is the cause of CME* and it is our opinion that maintaining normal pressure within the eye throughout the procedure may be as valuable a method of preventing this condition as avoiding anterior vitrectomy.

It is my opinion that removing the posterior capsule is an essential part of the procedure in children due to the high incidence of secondary membrane formation and the need to avoid any delay in clearing the visual axis so as to begin amblyopia therapy. The question as to what to do with the anterior vitreous is still open but in my experience, removal of only that amount of the vitreous that is necessary to clear the anterior chamber and to remove the posterior capsule has not met with significant problems within the eye, either at the time of surgery or subsequently.

References


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It starts quite innocently: you convince yourself the symptoms aren’t serious. So if you sought medical help you’d just look foolish. And later it’s too late.

Each year 350,000 Americans die from heart attacks before reaching the hospital. Often after a deadly, unnecessary delay. In fact, the average victim waits over three hours before consulting a doctor. Because he doesn’t realize what his symptoms mean. And he doesn’t want to seem silly.

Please, learn the warning signals of a heart attack. And, if you experience any of them, get help. Call a paramedic at once. Or, if you can get to an emergency room faster another way, do so. Without a second thought. After all, saving face means nothing compared to saving your life.

WARNING SIGNALS OF A HEART ATTACK

1. An uncomfortable pressure, fullness, squeezing or pain in the center of your chest behind the breastbone.

2. The sensation may spread to your shoulders, neck or arms. If it lasts for two minutes or more, you could be having a heart attack.

3. Severe pain, dizziness, fainting, sweating, nausea or shortness of breath may also occur, but are not always present.

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