



VITREOPUPILLARY BLOCK AFTER INTRACAPSULAR CATARACT EXTRACTION

D. Grupchev, D. Pencheva, I. Mateeva

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The vitreopupillary block after intracapsular cataract extraction presents one of the forms of malignant glaucoma. The latter has been described by A. von Graëfe already in the middle of last century.

In 1865, Bowman described a pupillary block due to lenticular materies. Dupuy Dutemps in 1904, and Hudson in 1911 described a pupillary block caused by vitreous body. Chandler and Sohnsen in 1947 presented their concept concerning this postoperative complication and clarified somewhat its pathogenesis. Later on numerous authors studied the pathogenesis of malignant glaucoma and of pupillary block, respectively. According to M. L. Krasnov; I. Vasilev, E. Koen the appearance of malignant glaucoma is due to "Pupillary block". S. Dabov speaks about an early pupillary block. E. Allen, P. C. Kronfeld and others speak about phakic and aphakic malignant glaucoma. In 1972, N. S. Jaffe presented a full description of pathogenesis, clinics and treatment of the aphakic pupillary block. In 1977, V. V. Kessing and K. E. Rosmussen report and aphakic glaucoma in 1,8 % of the patients after cataract extraction. According to them it is due to a pupillary block in 44% of the cases, to block of helmet channel in 37 % and to an angle block in 19 % of the patients.

R. N. Chaffer and H. D. Hoskins (1978) clarified the terms "pupillary and ciliary block" as well the pathogenetic and therapeutic procedures.

According to any authors the aphakic glaucoma sets in as a circulatory disorder after normally performed cataract extraction. The classic events start several days till one month after operation. Usually, the anterior hyaloid membrane is not affected. The anterior chamber which has been normally deep early after operation becomes shallow and even absent. The vitreous body prolapsed through the pupilla into the anterior chamber like a mushroom. The intraocular pressure increases to high levels. The treatment applied for acute glaucoma attack is not effective any more and could even lead to change for the worse.

The vitreopupillary block is characterized with a stop of chamber fluid circulation from posterior into anterior chamber and it accumulates between posterior iris surface and vitreous body. The ciliary block presents an intraocular fluid accumulation in the retrovitreal space. The presence of ciliary block can be established during operation. After iridectomy, when the pressure remains high a ciliary block has to be considered.

According to most authors the aphakic glaucoma requires surgical treatment. Some of them (4, 5, 12) accept that conservative therapy could be successful in no more than 50 % of the cases. The performing of iridotomia instead of iridectomy, the presence of intact hyaloid membrane, the energetic mydriasis, as well the progress of slightly expressed postoperative inflammatory process is presumed to cause the vitreopupillary block.

Material and methods

Recently, we have observed 8 patients with vitreopupillary block after intracapsular cataract extraction performed because of senile cataract without any complications. The patients were aged between 54 and 81 years, 7 males and one female. Two of them had an expressed obesity with b. w. over 100 kg. All patients were discharged from the Clinic on the 7th—8th after operation without any clinical data of inflammatory signs and with a calm eye. The symptoms of vitreopupillary block occurred on the 10th—11th day after operation in three patients, on the 20th day in two and between 1 and 3 months after operation in the rest 3 patients. Subjective symptoms was presented with pains in the operated eye and visus reduction. Objectively, an oedema of the cornea, congestion, shallow till absent anterior chamber and prolapse of vitreous body into the anterior chamber "like a mushroom" contracting with the cornea. Intraocular pressure was increased between 35 and 59 mm Hg. The visual acuity with correction was lowered to several hundreds. The treatment was started already ambulatorily by using mydriatics and per os were given osmotically acting drugs such glycerine, mannitol, dehydrat in. The conservative therapy has led to permanent lowering of intraocular pressure, restitution of the anterior chamber and retraction of vitreous body back to the level of pupillar plan in 2 patients. In the rest ones a considerable reduction of intraocular pressure was achieved but it couldn't reach normal levels. The anterior chamber went deeper but there were also some peaks of sharply increasing of the intraocular pressure. In these cases a surgical treatment was performed. A cyclodialysis was done in 3 patients, a cyclodialysis combined with basal iridectomy in one only, a basal iridectomy and hyalotomy both in another patient and a hyalotomy only in one patient. After repeated hyalotomy combined with iridectomy the ophthalmic pressure couldn't be normalized in one of the patients only. Anular synechiae in chamber angle developed and a normalization of intraocular pressure was achieved after sinusotrabeculectomia.

In the past, the consequence of eyes with an aphakic glaucoma was blindness and even sometimes bulbar anucleation. In our patients the bulb was preserved and the tension permanently reduced within normal limits. The visual acuity of one patient reached up to 1,0, in another up to 0,4; in 3 ones up to 0,3 and in 2 ones up to 0,2. In one patient it was 0,1 only.

On the basis of our study the following conclusions could be made:

1. After diagnosing of vitreopupillary block an early therapy with mydriatics is needed.
2. The operative intervention of vitreopupillary block has to restore the circulation between posterior and anterior chamber. In cases with ciliary block a hyalotomy is required to be performed and, eventually, an evacuation of retrovitreous fluid, too.
3. Early diagnosis and correctly performed treatment preserves the bulb and the visual acuity quite satisfactorily, indeed.

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ВИТРЕОПУПИЛЛЯРНЫЙ БЛОК ПОСЛЕ ИНТРАКАПСУЛЯРНОГО УДАЛЕНИЯ КАТАРАКТА

Д. Группев, Д. Пенчева, И. Матеева

Р Е З Ю М Е

В работе описано лечение 8 больных с витреопупиллярным блоком после интракапсулярного удаления хрусталика.

У всех больных операция прошла без осложнений. Целость передней гиалоидеи не была нарушена. До выписки больных передняя камера была глубокой. Клинических данных о развитии воспалительных реакций не было.

В период с десятого дня до сорок первого дня после операции наступила повышение внутриглазного давления с очень мелкой передней камерой или аталамией. При этом устанавливается выпадение консистентного стекловидного тела через зрачок под формой гриба при сохраненной гиалоидной мембране. Лечение началось энергичным расширением зрачка, что у трех больных привело к разрешению блока — передняя камера стала более глубокой, внутриглазное давление прочно нормализовалось. В остальных случаях приходилось делать оперативное вмешательство — рассечение передней гиалоидной мембраны, базальная иридэктомия и введение воздуха в переднюю камеру. У одного из прооперированных больных несмотря на восстановление передней камеры высокое давление сохранилось вследствие гониосинехии. Нормализация глазного тонуса достигнута после синусотрабекоэктомии.

Обсуждаются патогенетические механизмы возникновения витреопупиллярного блока, его предупреждение и лечение.