VITREOUS PROLAPSE IN CATARACT SURGERY*

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VITREOUS prolapse in cataract surgery is the worst complication that every ophthalmic surgeon is afraid of. The eye may recover but the chances of post-operative complications are many. The percentage of vitreous prolapse varies with different ophthalmic surgeons. Knighton (1949) reported 0.9 per cent. of vitreous prolapse and Cinotti (1952) reported 1.57 per cent. in the same series of patients; Townes, Moran, and Pfingst (1952) reported it in 6.5 per cent., and Heath (1961) in 7 per cent. in series of cases extending over five years.

Method and Material

The loss of vitreous in our cataract surgery is 6 per cent. It may be complete or partial. It is reduced to a great extent if 0.2 c.c. aqueous is aspirated from the anterior chamber and is replaced by sterile air. In 400 cataract extractions, 200 cataractous eyes were operated on without draining aqueous from the anterior chamber; in the next 200 eyes 0.2 c.c. aqueous was taken out and replaced by the sterile air. Its effect has been studied on vitreous prolapse.

These eyes were picked at random. In one morning, probably 4 cataractous eyes were operated upon without aspirating aqueous, and the remainder after aqueous was removed from the anterior chamber. The patients with senile cataract were admitted to the wards of Sarojni Naidu Hospital, Agra, two days before the operation. Strepto-penicillin drops (crystalline penicillin 2 lac units, streptomycin 0.25 g., aqua ad 20 c.c.) were instilled every two hours until the patient was operated upon. Nembutal (gr. 1.5) was given the night before operation to ensure sleep; it was repeated half an hour before the operation.

Novocaine 2 per cent. with adrenaline was used both for akinesia and retrobulbar anaesthesia, and Anethaine 1 per cent. drops for surface anaesthesia.

Technique of aspirating Aqueous from the Anterior Chamber

A tuberculin syringe was used to aspirate aqueous from the anterior chamber. Sterile air was drawn into the syringe up to the 0.2 per cent. c.c. mark. The needle was introduced into the anterior chamber at 10 o'clock anterior to the limbus, after steadying the globe with a superior rectus stitch and fixing the eye with forceps at 6 o'clock. As soon as the needle was through sterile air was injected. The aqueous was aspirated up to the 0.2 c.c. mark. The needle was taken out and the eye was closed for a while with a sterile pad. The operation was started shortly after.

The lids were anchored with lid stitches. The eye was fixed at 6 o'clock with fixation forceps and incision was made from 9.30 to 2.30 in the right eye and from 2.30 to 9.30 in the left eye. There was no difficulty during the incision; the eye was never so soft as to give difficulty in completing the incision. The air followed the knife. Peripheral

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iridectomy was done and the lens was delivered either by the forceps method or Smith's method. In all eyes one pre-placed and two post-placed sutures were used and sterile air was injected into the anterior chamber at the end of the operation.

A complication during the incision in four eyes was that air escaped before the completion of the section. Thus the upper part of the iris came in front of the knife and it was cut, leading to a big iridectomy. No other complication was noted.

In this series of 200 cataractous eyes in which aqueous was aspirated vitreous prolapsed in only one eye. In a similar series of 200 cases where no aqueous was taken out vitreous prolapsed in 12 eyes. In the first series, 185 eyes had intracapsular extraction and 15 eyes had extracapsular extraction of the lens. In the control series of 200 eyes with cataract intracapsular extraction was performed in 180 eyes and extracapsular extraction in 20 eyes.

Discussion

Various drugs and various methods have been employed to reduce the loss of vitreous. Previously, "Diamox" had been used in this department before the operation to reduce the loss of vitreous. By aqueous removal tension is reduced for a short while, and air keeps the anterior chamber to its normal depth, which gives no difficulty in extraction of the lens. The only disadvantage in this series was that in four eyes a bigger iridectomy was done because of the early escape of air, which produced more glare, and a bad cosmetic effect resulted. The section healed in its normal time. The technique works by reducing the intra-ocular tension, thus reducing vitreous prolapse. It is simple and could be practised by any surgeon.

Summary

The loss of vitreous has been observed in 400 operations for senile cataract. In 200 eyes aqueous was taken out before operation and was replaced by air in the anterior chamber; the loss of vitreous was 0.5 per cent. In 200 control operations, the loss of vitreous was 6 per cent.

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