Flat anterior chamber and choroidal detachment in aphakia

Study of 500 cataract extractions

R. R. SHAH

Rajkot, Gujarat, India

This study was undertaken to find out the incidence of shallow anterior chamber and choroidal detachment after cataract extraction and to examine the relationship between these two relatively frequent postoperative complications.

Küchle (1962) had 10 per cent. choroidal detachments in the second postoperative week. In a series of 1,256 cataract extractions studied by Castrén (1960), the incidence of choroidal detachment was 10 per cent. in intracapsular and 3 per cent. in extracapsular operations; the difference was probably due to the difficulty of viewing the fundus in the latter. Choroidal detachments occurred from the 4th to the 56th postoperative day and healed with conservative treatment in all but one case. Most of these detachments were located nasally and inferiorly. Castrén did not mention the condition of the anterior chamber.

Bégué (1961) put the incidence of choroidal detachments at about 6 per cent. Voisin and Juge (1956) pointed out that many choroidal detachments existed with re-formed anterior chambers. Solares-Zamora (1964) observed that late loss of the anterior chamber occurred in 2 to 24 per cent., and that in many cases choroidal detachment accompanied the flat anterior chamber, but he did not state whether the one preceded or followed the other.

Postoperative loss of the anterior chamber without choroidal detachment may be due to wound leakage, synechiae of the pupil with the vitreous, or an abnormal collection of aqueous behind the anterior hyaloid membrane or forming pockets in the vitreous posteriorly.

Schepens (1961) thought that the capillary bed in some eyes could not withstand the sudden fall in pressure when the eye was opened, with the result that fluid collected in the subchoroidal space so causing detachment of the choroid. Bégué (1961) thought that the hypertonicity of the tissue was due to a disequilibrium of liquid in relation to the aqueous humour.

Present investigations

500 cases of senile cataract were studied. Preoperatively the patients received Tab. Dial. 50 mg. on the previous night. The pupils were dilated with Homatropine eye drops half hourly from 6 to 7.30 am. on the morning of the operation, and pethidine and phenergan were given intramuscularly about 30 minutes before the operation. All were operated upon under local anaesthesia and by the same operative technique. Three to five Barraquer virgin silk sutures were used for wound closure. All were examined with the

slit lamp at the time of discharge, and at each subsequent follow-up visit. In doubtful cases, the intraocular pressure was measured with a Schiötz tonometer 15 days after operation.

An analysis of the results shows that, out of 500 cases, thirteen (2·6 per cent.) had choroidal detachment and 37 (13·5 per cent.) had flat anterior chamber during the post-operative period. Four cases of choroidal detachment had normal anterior chambers. In three of the other nine cases the choroidal detachments appeared before the clinically shallow chamber was observed and healed after the chamber had re-formed. In five cases the chamber became flat first, and in one the two events were simultaneous. The detachment disappeared after the chamber re-formed in four of the last six cases. In the 37 cases of shallow anterior chamber the condition appeared at times varying from the fourth to the 75th postoperative day. Eight of these patients also had choroidal detachment; four had an obvious pupil block caused by vitreous, and in four there was a large vitreous mushroom almost touching the cornea.

The low ocular tension returned to normal when the chamber had re-formed. In four cases the tension was found to be higher when the chamber was shallow.

In three cases the anterior chamber re-formed after being flat for a few days, again became flat, and later re-formed again.

Surgical intervention was required in only one patient. The rest were all treated conservatively.

Summary

In 500 cases of cataract extraction the incidence of choroidal detachment was 2·6 per cent. and that of shallow anterior chamber was 13·5 per cent., and there was no regular relationship between the two conditions. The eyes were treated conservatively and these complications did not affect the ultimate visual acuity or intraocular pressure.

I am grateful to Dr. P. B. Banaji, Prof. of Ophthalmology, J. J. Hospital, Bombay, for his help in preparing this paper.

References

- BÉGUÉ, H. (1961) *Bull. Soc. Ophtal. Fr.*, p. 964
 CASTRÉN, J. A. (1960) *Acta ophthal. (Kbh.)*, **38**, 72
 KÜCHLE, H. J. (1962) *Klin. Mbl. Augenheilk.*, **141**, 853
 SCHEPENS, C. L. (1961) *Amer. J. Ophthal.*, **51**, 331
 SOLARES-ZAMORA, J. (1964) *Ann. Oculist. (Paris)*, **197**, 775
 VOISIN, J., and JUGE, P. (1956) *Bull. Soc. Ophtal. Fr.*, p. 582