ACUTE GLAUCOMA AFTER PROSTATECTOMY

By Arthur Lim Siew Ming, F.R.C.S. (ENG.), D.O. (LOND.).

(Eye Clinic, General Hospital, Singapore.)

There have been sporadic reports of acute congestive closed angle glaucoma developing after a major operation. It is uncommon, but in persons who have narrow anterior chamber filtrating angles the increased stress of a major operation, the increased fluid intake especially intravenous drip and injection atropine as a preoperative medication may be just sufficient to trigger off the mechanism of pupillary block, physiological iris bombe and iridocorneal contact leading ultimately to an acute attack. Gartner and Billet (1958) gave an incidence of 4 cases in 3,437 surgical cases. This is a report of a case who developed an acute closed angle glaucoma immediately after a Freyer's prostectomy.

CASE REPORT

O.K.T. age 73 years, male, was admitted into the General Hospital, Singapore on 19.8.64 for acute retention of urine. He was treated for pulmonary tuberculosis in 1963.

On examination the patient was emaciated and his general condition poor. He was diagnosed and treated for acute retention of urine due to benign prostatic hypertrophy. On 25.8.64 a Freyer's Prostatectomy was done through a lower abdominal incision: a large prostate gland was found and enucleated. He was given an intraveneous drip of 5% dextrose and normal saline (total fluid intake was 1,320 c.c. by drip and 900 c.c. orally).

He was referred to the Ophthalmic Unit, General Hospital on 27.8.64 for conjunctival injection and irritation of the left eye.

He gave a history of watering and blurred vision of his left eye besides the above symptoms since he 'recovered from his operation'. He did not complain of pain or haloes. He had a similar attack in his right eye 7 years ago and was operated on by a private opthalmologist. Since the operation the right eye did not cause any trouble although the vision of the eye remained poor. He had no symptoms of his left eye until 2 days ago.

On examination, the patient was in pain and held his left forehead with his left hand. His left lid was swollen due to oedema, his conjunctiva was infected especially around the cornea, the eye was watering, the cornea hazy, the anterior chamber narrow and the pupil was semidilated and fixed (not reactive to direct and consensual light). The intraocular tension was raised digitally.

His right eye was quiet. There was a bleb superiorly at 12 o'clock combined with a complete iriectomy, probably due to an iridenclesis. The intraocular tension measured digitally was normal.

As the patient was in pain and generally ill it was decided that other tests be postponed. He was given oral diamox (ii) tablets stat. and (i) tablet 6 hourly, 1% eserine eyedrops every hour and tablet sonalgin (ii) tablets 6 hourly for 48 hours.

He was seen the next day. The eye responded well to treatment. The patient was no more in pain, the cornea was clear, the pupil constricted and the digital tension normal. Because of his poor general condition and the intraocular tension controlled with medical therapy it was decided that operation be postponed until his general condition improved.

Unfortunately, on 30.8.64 his general condition deteriorated rapidly and he died the same afternoon.

DISCUSSION

Sporadic cases of acute closed angle glaucoma developing after major surgery have been reported from time to time. It is not possible to be certain what the actual precipitating factor is in most cases but it is essential that the eye must have a narrow filtrating angle to allow an acute attack to be triggered off by precipitating factors.

It is likely that the most important factor is the semidilated pupil associated with the use of parasympatholytic preanaesthetic drugs, the increased intraocular stress and the darkened post-operative rooms associated with major surgery.

Leopold and Comroe, 1948, studied the effect of preanaesthetic drugs on patients and found that scopolamine dilated the pupils of 7 of 8 patients and atropine 3 of 8 patients. Other studies made supported the observation that administration of scopolamine had a greater pupil dilatation effect than atropine.

It is well known that emotional stress not only can cause dilatation of the pupil but may result in vasomotor changes in the cilary body causing a narrowing of the filtrating angle, thus enhancing the chance of an acute attack. This was the basis of the vasomotor theory of Duke Elder as the primary cause of acute closed angle glaucoma.

The increased fluid intake especially intravenously increases the formation of aqueous: this may enhance the physiological iris bombe effect which may result in iridocorneal contact if the filtrating angle is sufficiently narrow.

In this case, the acute glaucoma occurred in the fellow eye 7 years after the first eye developed the attack. It illustrates that acute closed angle glaucoma is a bilateral disease. This has been stressed by several ophthalmologists interested in closed angle glaucoma, Chandler (1951), Bain (1957) Lowe (1962), Lim (1964). The author has little doubts that after an attack of acute closed angle glaucoma, the fellow eye should have a routine prophylactic peripheral iridectomy especially if the filtrating angle is narrow.

The possibility of acute glaucoma occurring after major surgery should always be kept in mind and should be suspected whenever the patients develops a red, painful or irritating eye after surgery. Due to post-operative sedation the patients often do not complain and the vomiting and nausea due to the attack often considered to be the result of surgery or anaesthesia.

Preoperative precautions could be taken by surgeons and these may prevent attacks. Shallow anterior chambers should be noted and in patients with shallow anterior chambers, symptoms such as blurred vision, ocular pain and haloes should be asked for. If positive an ophthalmologist should be consulted.

During the post-operative period special attention should be taken to examine the eyes for signs of acute glaucoma.

SUMMARY

1. A case of acute closed angle glaucoma after prostectomy is described.
2. The most important precipitating cause of acute glaucoma after major surgery is probably dilatation of the pupil.
3. It is stressed that acute closed angle glaucoma is a bilateral disease.
4. Acute glaucoma should be kept in mind whenever patients complain of ocular symptoms after major surgery. Preventive measures and early diagnosis are discussed.

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