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Acute retention of urine following intraocular surgery.

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SUMMARY:

Hyperosmolar agents and carbonic anhydrase inhibitors are used to lower the intraocular pressure and thus minimize the chances of vitreous loss during intraocular surgery. However, these agents could precipitate urinary retention. This is a report on two elderly men who had perioperative acute urinary retention following administration of oral glycerol and acetazolaminde, respectively. Ophthalmic surgeons using these agents must remember this compliation and should stock the instruments with which to promptly relieve the patient of the retention.

KEY WORDS: ***Acute retention, intraocular surgery.***

INTRODUCTION

Acute retention of urine is a surgical emergency with diverse aetiology. In tropical Africa; urethral stricture and benign prostatic hypertrophy are the commonest causes[1,2]. Some patients develop acute urinary retention after surgery. Post-operative acute retention of urine has been reported mainly following abdominal, anorectal, gynaecological and pelvic surgeries[3].

In some patients, pain following surgery may lead to delay in voiding urine while in others drugs used for anaesthesia may cause bladder dysfunction thus leading to acute urinary retention.

In ophthalmic practice, post-operative acute retention of urine is rare but may be occasionally encountered with general anaesthesia[4]. This paper reports two cases of acute retention of urine following intraocular surgery, done under local anaesthesia.

CASE REPORTS

Case 1

PE was a 65 year old man who presented at the NOSCO Eye Hospital Onitsha on 23/7/90 with a 5 year history or progressive, painless blurring of vision in both eyes. He had been using eye drops and tablets prescribed for him. However, he said he could not use the drugs regularly because they were rather expensive.

Ocular examination showed in each eye a visual acuity of 6/9; bilateral arcus senilis; normal anterior chamber depths; sluggishly reacting pupils; early lens opacities; flat retina, pale cupped optic disks with a cup/disc ratio of 0.8. The intraocular pressure (Schiotz) was 40.2mmHg in the right eye and 37.2mmHg in the left. The anterior chamber angles were open and there was no gonio-synechiae. The peripheral fields were contracted. A diagnosis of bilateral chronic open angle glaucoma was made. In view of poor compliance with drugs, surgery was advised.

General physical examination on admission showed a well nourished elderly man. BP – 130/90mmHg; Radial pulse - 88/minute, regular and of good volume; chest was clear; there was no focal neurological deficit. Rectal examination revealed an enlarged prostate gland. On specific questioning he denied any difficulty with micturition.

Laboratory results are as follows: Hb – 11.5g%; WBC – 5400/mm3; Urinalysis - No abnormality detected. Right trabeculectomy was performed on 8/8/90.

Pre-operative Preparation – While on admission the patient was placed on timoptol 0.5% eye drops 2 times daily. On the night before surgery, the pre medication included tablets diazepam 10mg; I.M. Pentazocine 30mg; one drop of 4% pilocarpine to each eye; 60ml of oral glycerol.

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Anaesthesia – local anaesthesia was administered: Retrobulbar injection of 2% xylocaine with 1:200,000 adrenaline. Facial nerve block was by the Nadbath technique[5].

Post operative therapy – At the end of surgery, subconjunctival injection of gentamicin 20mg; topical eye drops of mydiraticum and chloramphenicol were administered and the eye padded.

About 30 minutes after surgery, he complained of inability to micturate in spite of the urge to do so. Physical examination showed an elderly man in agony. There was a tender suprapubic mass extending up to the umbilicus. The mass was dull to percussion. A diagnosis of post-operative acute rettention of urine was made. Attempt at catheterising the patient failed. Suprapublic cystostomy yielded 3 litres of urine. The patients distress was relieved. Forty-eight hours later the patient started passing urine normally through the urethra. Nevertheless, he was on discharge, referred for urological assessment.

Case 2

CA, a 68 year old retired civil servant was admitted at the Guinness Eye Center Onitsha on 25/11/97 for left cataract extraction with intraocular lens implant. He was also hypertensive and used brinerdin tablets. Otherwise his general health had been good.

Ocular examination showed a right visual acuity of 6/6 (Snellen) and Count Fingers at less than a metre (CF < 1m) with accurate projection of light in the left. THe intraocular pressure in each eye was 12 mmHg (applanation). The anterior segment of the left eye was normal except for mature cataract, which also precluded the view of the posterior segment. Rectal examination revealed an enlarged prostate gland.

Preoperative preparation: on the night before surgery he had tablets of acetazolaminde 500mg and diazepam 10mg as well as his antihypertensive drugs. The next day about an hour before surgery the preoperative medication included tablets of acetazolmide 500mg; diazepam 10mg and dilatation of the left eye pupil with tropicamide 0.5% eye drops. In the operating room he received intramuscular injection of 30mg pentazocine. Peribulbar injection of 2% plain xylocaine (local anesthesia) was administered to the left eye.

Midway during the surgery, the patient became restless and complained of serious urge to void urine. (His visual signs were normal). However, he could not void into the urinary container provided for him. With patient's distress increasing, the surgery was limited to extra capsular cataract extraction without the intraocular lens implanation.

Catheterisation with Foley's catheter yielded about 2.5 liters of urine. The catheter was removed after 24 hours and then patient could void urine on his own. He was later refered to a urologist.

DISCUSSION

Acute retention of urine is not a common complication of eye surgery. Kerr-Muir and O'Sullivan[4] reported one case in 176 eye surgeries performed under general anaesthesia. The patient was later found to have cancer of the prostate. Croffead and Thrower[6] encountered this complication in one out of 137 catarat extractions. The surgery was performed under local anaesthesia and the patient who was 61 years old had oral glycerol before surgery.

In a study of the outcome of cataract extractions performed over a 6 year period, Abiose[7] noted that 6 out of 318 patients had urinary problems, following intravenous infusion of sodium mannitol. The cases herein reported occured in two hospitals where the author had performed more than 1000 cataract and glaucoma surgeries during a 7 year period.

Part of the aim of pre-operative preparation of a patient going for intraocular surgery is to prevent such intra-operative complications as raised intraocular pressure and subsequent vitreous loss. In this regard preparation for both cataract extraction and glaucoma surgery go along the same line.

Cataract extraction and glaucoma surgery are the commonest elective intraocular surgeries performed in ophthalmic practice, with cataract surgery constituting up to 45% of all eye operations in some centres[8]. Reports from different parts of Nigeria indicate that persons aged 60 years and above form over 40% of the ophthalmic surgical patient[7,8].

Benign prostatic hypertrophy is one of the commonest causes of bladder outlet obstruction and by implication, urinary retention. It is common in our environment[1] and Yeboah[2] reported that it was responsible for over 31% of cases of acute urinary retention in a teaching hospital in Ghana. "Prostatism" describes a swelling of an already enlarged prostate gland which in turn results in bladder outlet obstruction and urinary retention. A factor predisposing to prostatism is the rapid bladder filling. This can occur when one consumes alcohol; drinks a

lot of water or ingests diuretics[9]. In the cases herein reported, preoperative medication included oral glycerol (hyperosmolar diurectic agent) and acetazolamide (which also has diurectic effect).

High intraocular pressure is a constant source of anxiety to the ophthalmic surgeon since it increases the chance of such intraoperative complications as vitreous loss. Diurectics such as oral glycerol and acetazolamide given before surgery lowers the intraocular pressure and renders the eye "soft" for surgery[5]. But this can precipitate acute urinary retention.

Anticholinergics drugs such as atropine especially when administerd systemically in large doses can inhibit micturition[10]. Major tranquilisers and even minor traquilisers like diazepam do cause urinary retention on chronic use, because of the effects on bladder muscle[11]. No systemic anticholinergic was administered to the patient and he used diazepam for only 12 hours before surgery. Thus, it is not likely that these drugs played only significant role in the acute retention of urine. It is suspected that these patients must have had acute prostatism from rapid bladder filling after taking the oral glycerol and acetazolamide respectively. The delay in micturation during the period of the surgical operation must have aggravated his condition.

In spite of the risk of precipitating acute urinary retention, especially in elderly males with enlarged prostate, oral glycerol; intravenous mannitol, acetazolamide and similar agents are still useful in ophthalmic practice, since they are often required to quickly lower a dangerously high intraocular pressure such as encountered in acute angle closure glaucoma. It is therefore, advised that the ophthalmic surgeon be prepared to relieve the patient of the acute retention whenever it occurs. The ophthalmic wards and operating rooms should have in stock such items as small size Foley's catheter and a sterile pack for suprapubic cystostomy. As part of the preoperative preparation, a thorough physical examination (including the urogenital system) of male patients, especially those aged 50 years and above, is mandatory. Also all surgical patients should be persuaded to micturate just before taken into the operation room.

In conclusion, although acute urnary retention following intraocular surgery is comparatively rare, it is nevertheless important. Therefore, it is essential to preoperatively do a thorough urological assessment of men older than 50 years who are going for intraocular surgery. The ophthalmic surgeon should remember that risk of acute urinary retention is especially high in those with enlarged prostate and should be ready to tackle the problem whenever it arises.

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