

Case Report: Morgagnian Cataract with Complication

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Abstract

Morgagnian cataract is a hypermature cataract formed with liquefaction of the cortex or of the dense nucleus. In developed countries cataract surgeries are done as soon as it becomes visually disabling. In developing countries, due to late presentation of the patients, morgagnian cataracts are commonly seen. Two cases of hypermature cataract were presented in this paper. Case 1 is Morgagnian cataract and case 2 is Morgagnian cataract with complication: phacolytic glaucoma (PG). The PG was usually caused by hypermature lens, and the principal mechanism was the obstructed trabecular meshwork with the leaky lens capsule proteins. The PG in severe cases is commonly misdiagnosed with endophthalmitis and was therefore refused lens extraction by local eye doctors (district level). In this paper the diagnosis and treatment were discussed, and a procedure was proposed for management PG with satisfying results contributed the better quality of life reported herein.

Keywords: *Morgagnian; Phacolytic glaucoma; Endophthalmitis; Satisfying results*

1. Introduction

Morgagnian cataract is a hypermature cataract formed with liquefaction of the cortex or sinking of the dense nucleus. International Classification of Diseases (ICD-10), H25.20 is for Age-related cataract, morgagnian type, unspecified eye [1-3]. In most developed countries cataract surgeries are done as soon as it avoids disable visuality, but due to late presentation of the patients, morgagnian cataracts are commonly seen in developing countries. In An Giang Province, Vietnam, Cataract Operation Campaigns have been done in community to increase output and outcome [4]. Two cases of hypermature cataract were presented in this paper. Case 1 is Morgagnian cataract and case 2 is phacolytic glaucoma (PG) that was usually caused by hypermature lens, and the principal mechanism was the obstructed trabecular meshwork with the leaky lens capsule proteins.

The PG in severe cases is commonly misdiagnosed with endophthalmitis and was therefore refused lens extraction by local eye doctors (district level) but extra capsular cataract extraction (EECE) with intraocular lens (IOL) was done with simple technics at provincial hospital. In this paper the diagnosis and treatment were discussed, and a procedure was proposed for management PG with satisfying results contributed to the better quality of life reported herein.

2. Case Report

Case 1: A 58-year-old man patient. General examination: Height: 1.65 meters; weight: 62 kg; pulse: 85/minute; blood pressure: 120/80 mmHg; temperature: 37 Celsius. He presented with gradual, painless diminution of the vision in his right eye over a period of 2 to 4 years. In this eye, the best corrected visual acuity (VA) was limited to perception of hand movements; the intraocular pressure (IOP) was 15 mmHg, with a clear cornea and a morgagnian cataract. A dense yellow-brown nucleus had sunk inferiorly with a clear, milky-white cortex above, leading to vision loss. The central dense nucleus would become gravity dependent often displaced inferiorly to the lower equatorial region of the lens within the capsular bag. The left eye (LE) is nothing abnormal detecting. VA=6/12, IOP=13 mmHg.

Paraclinic: RBC=5.000, 000cells/mm³; WBC=7,900cells/mm³ (Neutrophile: 72%, Lymphocyte: 28%); Bleeding time=3'; Coagulation time=6'. Glycemia=5, 9 mmol/L. Chest X-ray: nothing abnormal detected.

Diagnosis: RE=Morgagnian cataract. LE=normal. Treatment: Acetazolamide 250 mg x 4 tablets/day. Extra capsular cataract extraction (ECCE) and intraocular lens at posterior chamber (IOL/PC) was performed on the day after. One month after the cataract was removed; the VA of patient was 6/18. One year follow-up after surgery, his VA was 6/12 in the RE and 6/9 in the LE.

Case 2: A 60 years old, female, farmer. Five days before she suddenly had headache then located at right eye, then with intensive pain and she was treated by staff of health station village, but the pain did not decrease. Then she was transferred to district hospital with misdiagnosis endophthalmitis and refused cataract extraction. So, the patient asked for transfer her to provincial hospital. And then she was admitted at author's provincial hospital.

General examination: Height: 1.55 meter; weight: 60 kg; pulse: 80/minute; blood pressure: 120/70 mmHg; temperature: 37 Celsius.

Ocular examination: Visual acuity: RE=no perception of light, LE=6/12. Intraocular pressure (IOP): 41 mHg=RE; 12 mmHg=LE. RE: Injection of conjunctiva, epithelial and stroma of cornea: edema; milky opacity of anterior chamber looks like pus; pupil no observe. Ocular movement: normal. LE: Central opacity of crystalline capsule.

Paraclinic: RBC=4.500, 000cells/mm³; WBC=7,700cells/mm³ (Neutrophile: 71%, Lymphocyte: 29%); Bleeding time=3'; Coagulation time=5'. Glycemia=5, 6 mmol /L. Chest X-ray: nothing abnormal detected.

Diagnosis: RE=Phacolytic Glaucoma. LE: Central opacity of crystalline capsule.

Treatment: Prednisolone 40 mg x 6 days + Acetazolamide 250 mg x 4 tablets/day. ECCE with IOP at anterior chamber (AC) on the day after. One day follows: VA: RE=counting finger 5meter; IOP=20 mmHg=RE. Discharge (after one week treatment): VA: 6/60=RE; 6/9=LE; IOP=17mmHg. Both eyes (OU). One year follow-up: VA: 6/18=RE; 6/12=LE; IOP=17 mmHg OU (FIG. 1).



FIG. 1.

3. Discussion

Morgagnian cataract is commonly age-related acquired condition. However, factors that increase the risk of cortical cataracts like chronic sunlight exposure [1].

The incidence of PG in author's hospital where the backlog of cataract was relatively high, occupied 10% of operated glaucoma, 3% of cataract surgeries.

- Case 1: Morgagnian cataract is a clinical diagnosis included signs [1]: Decreased visual acuity - gradually progressive, painless; Dense nucleus floating freely in the liquefied cortex; Absence of red fundus glow in retinoscopy.
- Case 2: Complications: Morgagnian cataract may undergo spontaneous rupture into anterior chamber causing inflammatory reaction, which is known as phacoanaphylactic uveitis. It may also be complicated with phacolytic glaucoma when the lens protein leaked through the anterior capsule clog the trabecular meshwork obstructing the aqueous outflow [1,3]. Surgical removal of the cataractous lens followed by IOL is the treatment modality of choice [1,2].

Surgery: The patient was informed that because of the morgagnian cataract, the surgery would be at higher risk for posterior capsular rupture, endothelial cell damage, or nucleus dislocation into the vitreous that may result in a poorer visual outcome. The surgical plan for this patient involved anesthesia with retrobulbar block, staining of the lens capsule with trypan blue, and aspiration of liquefied cortical material after initial capsular opening made. Various techniques have been tried to decrease the risk of uncontrolled capsular tears. After a successful capsulorhexis, hydrodissection or hydrodelineation is not necessary as

the nucleus is already mobile within the capsule [1-3]. Various surgical techniques can be used to improve visualization and control the creation of a capsulorhexis in hypermature cataracts.

- Case 1: Lens extraction with IOL/PC because of posterior capsule intact.
- Case 2: Lens extraction with IOL/AC because of without posterior capsules. We proposed a procedure for both diagnosis and treatment for phacolytic glaucoma:

-A clear corneal incision at 12 o'clock for aspirating anterior chamber fluid for examining polynuclear, macrophage...in diagnosis as well as for inspecting of expulsive hemorrhage which rarely occurs in these cases.

-The anterior chamber and iris were then being seen clearer; lens extraction will be performed for radical treatment [5].

In this case after one year follow-up, VA improves with only mild vision loss, but the patient is satisfied with his/her living in the country side and they did not have any worries about their disability. This contributed to a better quality of life. With the Quality-of-Life Index 89.3, Vietnam is ranged 75 in 2023 despite of a developing country [6].

4. Conclusion

These cases contributed diversify of clinical ophthalmic signs of Morgagnian. For treatment with simple procedure for diagnosis as well as treatment phacolytic glaucoma with satisfying results was mentioned above. After cataract extraction the visual acuity of patient is improved, helping patient worrieless about his/her disability, contributed better quality of life.

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6. Conflict of Interest

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