

Eyeball Resection for a Uveal Malignant Melanoma under Local Anesthesia

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A 44-year-old man was referred to our hospital for ciliary body tumor management. A uveal melanoma in the left eye without systemic metastasis was our impression after a series of examinations. We treated this patient with eyeball resection under local anesthesia. Eyeball resection was previously regarded as a complicated procedure that should be performed under general anesthesia. Our surgery was successful, and there were no complications related to the local anesthesia. We followed up this patient for 3 years, and no recurrence was found.

Eyeball resection is a good alternative to enucleation for treating a ciliary body melanoma. Under a premise of survival, eyeball resection can maintain part of the visual function and cosmetics. General anesthesia is not indispensable when a patient's health does not allow its use. (*Chang Gung Med J* 2002;25:850-3)

Key words: eyeball resection, ciliary body melanoma, local anesthesia.

The traditional surgical management of ciliary body melanoma consisted of enucleation. This procedure is devastating to the function and cosmesis of the eye. Eyeball resection is an ideal alternative to treat a patient with a ciliary body melanoma without metastasis. Eyeball resection surgery was previously regarded as a procedure that had to be performed under general anesthesia to prevent intraoperative complications such as expulsive vitreous hemorrhage. We report on a case of ciliary body melanoma after eyeball resection surgery, which was performed under local anesthesia with a successful result. No intraoperative or postoperative complications were found. No tumor recurrence was noted after 3 years of follow up.

CASE REPORT

A 44-year-old man was referred to our hospital

with the complaint of a ciliary body tumor in the left eye, which was found incidentally during cataract surgery. His corrected visual acuity was 20/200. After the pupil had been fully dilated, we found a whitish ciliary body tumor mass in the nasal upper quadrant. The ultrasound examination revealed that this tumor exhibited low reflectivity and equal spike heights but displayed some irregularity in its internal structure (Fig. 1). The MRI showed that this tumor had high intensity on T1- (Fig. 2), low intensity on T2-, and a bright signal on T1-weighted images with contrast medium (Fig. 3). No tumor metastasis was noted after a systemic survey. Radiotherapy was not recommended by the radio-oncologist because of possible complications of the radiation.

For treatment of this tumor, we initially performed panretinal photocoagulation 3 times. Six weeks later, we performed an eyeball resection combined with endolaser photocoagulation, vitrectomy,

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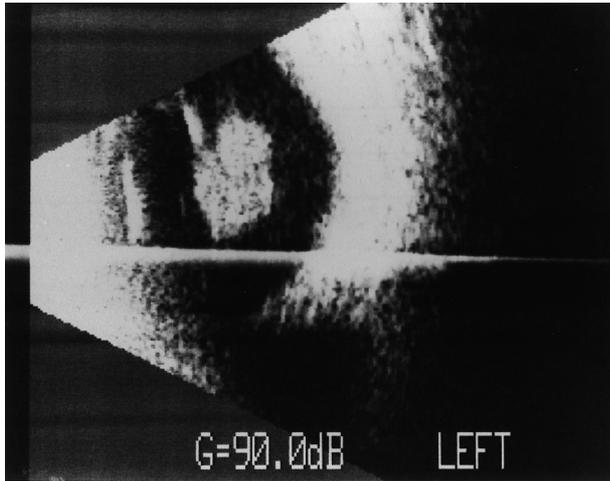


Fig. 1 Ultrasound examination revealing that the internal structure of this tumor exhibited low reflectivity but some irregularity.



Fig. 2 MRI showing the high intensity of this tumor on a T1-weighted image.



Fig. 3 MRI showing the bright signal of this tumor on T1-weighted image with contrast medium.

gas-fluid exchange, and long-acting gas (C₃F₈) tamponade. This surgery was performed under local anesthesia because the patient's heart disease rendered him unable to withstand long-term general anesthesia. The tumor specimen was sized about 6; 5; 4 mm, and the pathology report indicated that it was a malignant melanoma. We followed up this case for 3 years. Neither local or systemic recurrence nor metastasis had occurred to the last follow-up date. The final visual acuity was 20/300.

DISCUSSION

Eyewall resection of a ciliary body tumor has been proven to be a good method to remove the tumor and preserve the visual function and cosmesis[ok?].^(1,2) The modern eyewall resection technique was modified by Peyman in 1973.⁽³⁾ It was reported that after a 10-year follow-up, patients with malignant melanoma after eyewall resection received a prognosis that was no worse than that for enucleation in regard to life expectancy.⁽¹⁾ It was suspected that tumor manipulation during eyewall resection increased the incidence of metastasis.⁽⁴⁾ However, data in some reports did not support the conclusion that surgical manipulation accelerated the rate of metastasis.^(1,5) The criteria for selecting tumors for possible eyewall resection include the following: (1) the base diameter of the mass does not exceed 16 mm; (2) an exudative detachment of the retina covers no more than 1/3 of the fundus; (3) the tumor is at least 3 mm from the optic disc margin; (4) the media are clear; (5) there is no evidence of metastatic disease after complete workup; and (6) the patient's general health should permit administration of general anesthesia for at least 3 to 4 hours.⁽¹⁾ In the present case, eyewall resection was performed uneventfully under local anesthesia. The recommendation for general anesthesia was based on complete pain relief and better control of the surgical process. Use of the hypotensive anesthesia technique might decrease the incidence of intraoperative hemorrhage and provide a better surgical field.⁽⁶⁾ In this case, under local anesthesia, the surgery was uneventful without complicating hemorrhage. This might have been due to the preoperative photocoagulation, which effectively diminished the choroidal and retinal vascular bed, thereby minimizing the chance of hemorrhage.⁽³⁾ This is the first reported case of eyewall resection

under local anesthesia. This means that if general anesthesia is not suitable for a patient, a good prognosis can be maintained without compromising ocular function.

Eyewall resection is not without its drawbacks. Local resection of a posterior uveal tumor does have several potentially serious problems. The most common problem during the operation and the early postoperative period is vitreous hemorrhage. In addition, complications such as intraretinal or subretinal hemorrhage, retinal detachment, cataracts, and eventual enucleation due to a residual or recurrent tumor have frequently been reported.⁽⁵⁾

Eyewall resection is a safe and effective alternative to enucleation for treating a ciliary body melanoma. With eyewall resection, total blindness as a result of diagnostic tool limitations is avoidable. Surgical resection of a uveal melanoma under local anesthesia is feasible without significantly increasing operative or postoperative complications, especially for those patients who are not fit for general anesthe-

sia after a thorough preanesthetic evaluation.

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局部麻醉下實施眼球壁切除術成功治療睫體惡性黑色素瘤

黃奕修 陳珊霓 趙安年

一44歲男性因外院發現左眼睫體腫瘤而轉至本院治療。經檢查發現為睫體黑色素惡性腫瘤但無全身轉移現象。吾人於局部麻醉下實施局部眼窩切除術以切除此惡性腫瘤。之前有關局部眼窩切除術之報告皆認為此術式應當於全身麻醉下施行以避免併發症發生。吾人在局部麻醉下施行此術式而手術進行順利且術中及術後並無發生併發症。術後此病人追蹤三年並無腫瘤復發。

局部眼球壁切除術是替代眼球剝除術以治療睫體黑色素惡性瘤的良好術式。此術式不只可保住病人的視力及外觀，而且不會犧牲病人的存活率。當病人身體狀況並不適於全身麻醉時，局部麻醉下施行此手術亦是可行。此報告為至今在局部麻醉下施行局部眼球壁切除術的首例報告。(長庚醫誌 2002;25:850-3)

關鍵字：眼球壁局部切除術，睫體黑色素惡性瘤，局部麻醉。