Original Research Paper

Volume-9 | Issue-10 | October - 2019 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

Ophthalmology

INTRAOCULAR LEIOMYOMA SIMULATING CHOROIDAL MELANOMA

Putu Yuliawati*	MD Department of Ophthalmology and Internal Disease Department, Udayana University, Sanglah Hospital, Denpasar *Corresponding Author
Henry Santosa Sungkono	MD Department of Ophthalmology and Internal Disease Department, Udayana University, Sanglah Hospital, Denpasar
AAA Sukartini Djelantik	MD Department of Ophthalmology and Internal Disease Department, Udayana University, Sanglah Hospital, Denpasar
Ni Made Laksmi Utari	MD Department of Ophthalmology and Internal Disease Department, Udayana University, Sanglah Hospital, Denpasar
Ari Andayani	MD Department of Ophthalmology and Internal Disease Department, Udayana University, Sanglah Hospital, Denpasar
I Putu Budhiastra	MD Department of Ophthalmology and Internal Disease Department, Udayana University, Sanglah Hospital, Denpasar

ABSTRACT **Introduction and Objectives:** Intraocular leiomyomas are rare benign smooth-muscle tumors of the uveal and usually found at a young age and women. From clinical and imaging perspectives, leiomyoma can closely simulate choroidal melanoma. Both can appear as a dome-shaped, non-pigmented, smooth-surfaced, solid vascular mass originating in the uvea. This case report purposed to discuss a clinical sign of intraocular leiomyoma at Sanglah hospital.

Case Presentation: The case report, 37 years old male, complained of blurred vision in the left eye since four months ago until finally can not see. Patient also see such a small lump on his left viewing eyes that gradually enlarge. The patient was diagnosed with an intraocular tumor suspect choroidal melanoma dd/iris melanoma with MRI imaging result with contrast, from Ophthalmic USG, we found retinal detachment. Enucleation was performed and bulb specimens were sent to anatomical pathology for examination with result show morphological features of benign spindle cell neoplasm dd/fibroma, leiomyoma

Conclusion: Incompatibility of PA results with clinical examination and MRI imaging examination in this case may be due to clinical and similar imaging features. The enucleation is performed as therapy and specimens are examined under a microscope, the prognosis of the action is said to be good, in the absence of a post-action recurrence report.

KEYWORDS : Choroidal Melanoma, Leiomyoma, biopsi, benign spindle cell neoplasm

INTRODUCTION

Leiomyoma is a rare benign smooth-muscle tumor of the eye. The tumor initially from the smooth muscle cell and mesenchymal inside the vascular wall and suspected become its place to develop (Blodi, 1950). Choroidal melanoma mostly at the age of 80 years old (80%) and primarily affects male than female but at 20-39 years old the predilection toward female (Bell D, Wilson MW, 2004). Leiomyoma is often difficult to distinguish from melanoma uvea because of the eye and radiological examinations are similar. This case report aims to differentiate between benign leiomyoma and malignant melanoma and can determine the appropriate therapeutic modality.

Case Report

A male patient, 37 years old, complained see a bruise inside his left eye since a year ago. The patient also complained of sudden blurred vision in the left eye since six months ago. The patient has been wearing glasses since seven years ago and last time he checked his eyes, around minus 11 diopters on both eyes.

On the ophthalmology examination found best-corrected visual acuity (BCVA) on the right eye 6/45, visual acuity on the left eye 1/300, on the iris appear a mass at six o'clock with dimension 4 x 4 x 2.5 cm, and negative fundal reflex. Intraocular pressure was normal in both eyes, movement good in all directions. USG examination result was retinal detachment on the left eye.

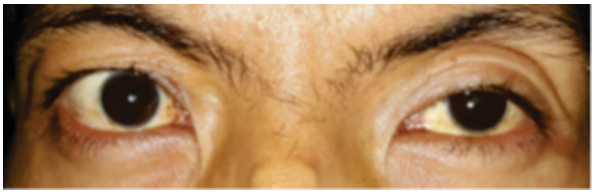

Figure 1. Anterior segment of the eyes

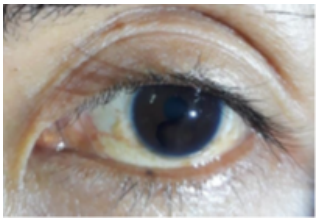

Figure 2. Iris Mass on the six o'clock with size 4x4x2.5 mm

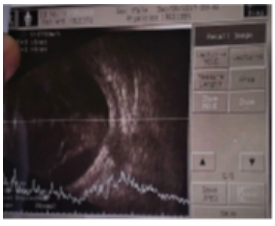

Figure 3. Ultrasonography showed retinal ablation on the left eye

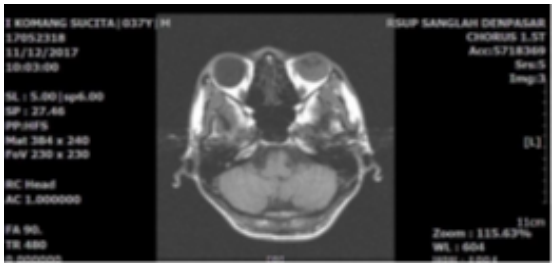

Figure 4. MRI focus orbita, showed consolidation on the subretinal left eye with suspect choroidal melanoma

From the result of the MRI examination on December 11th, 2017, the impression seems to be consolidation with irregular boundary on the left orbita subretinal, on post-contrast seems slight contrast enhancement, thickening of rectus externa muscle and giving impression of suspect choroidal melanoma. We suspect the patient with chroidal melanoma on the left eye with differential diagnosis melanoma iris and planned enucleation with protesa on the left eye. Three days after surgery, the patient was discharged. The patient suggested to check up four days later bring his anatomy pathology result.

From the result of anatomy pathology, macroscopic imaging of eyeball tissue on the incision came out a yellowish transparent liquid, appear retinal detachment, the inner surface of the eyeball is brown, it appears a mass inside the ocular cavity with dimension 0.5x 0.4x 0.3 cm. On the microscopic found infiltration of malignant cells on the border of the optic nerve and extraocular muscle, retina appears detached, it appears the tumor mass consists of proliferation of neoplastic spindle cells which is partially hyalinized including the choroid tissue, those cells with eosinophilic cytoplasm imaging, spindle nucleus, regular nuclear membrane, smooth chromatin. There is no malignant melanoma appearance, with the conclusion, the morphological appearance tends to be benign with differential diagnosis fibroma, leiomyoma (which hyalinized).

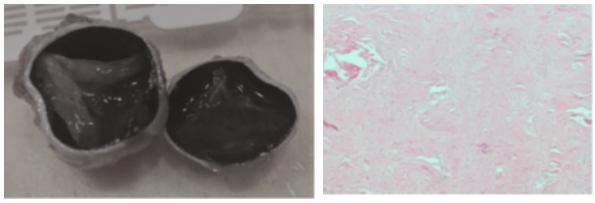

Figure 5. A) Macroscopic features of the bulbi, showed retinal detachment. B) Histopathological results show a tumor mass consisting of neoplast spindle cells undergoing hyalinization covered by choroidal tissue

DISCUSSION

Anterior tumors that located around the ciliary body are mostly associated with the increasing of specific mortality rate due to melanoma (Wenjun et al, 2000). Choroid tumors that extend to the ciliary body tend to be larger in the posterior. Also, the expansion into the extra-sclera increases the possibility of recurrence after the patient has received therapy (Gunduz et al, 1998)

Research shows that about 90% of patients experience metastasis to the liver, and the rest metastasize to the lungs (24%), bone (6%) and brain (4%). One consistent prognostic indicator of uvea melanoma is tumor size. The various classifications of tumor size, the largest basal tumor diameter (LBD) and tumor height were the most frequently used. Based on LBD, melanoma divided into small (≤10 mm), medium (10-15 mm), and large (> 15 mm) sizes (barr et al.,1981). This patient is subjected to chest x-ray examination and liver function test to find out whether this tumor has spread to the liver or lungs. Based on the examination in this patient, no signs of tumor metastases found to the liver or the lungs.

The immunohistochemical examination is a combination method of anatomy, immunology, and biochemistry to identify tissues that have certain characteristics by using interactions between target antigens and specific antibodies. In leiomyoma, the immunohistochemical examination is carried out mainly to exclude differential diagnoses. Leiomyoma has a strong positive result on smooth muscle actin examination (Biswas et al. 2000, Jeon et al. 2002)

The Collaborative Melanoma Study (COMS) recommends Radiotherapy for small tumors (diameter extending 1-3 mm, anteroposterior diameter no more than 5 mm) and Enucleation for medium-sized tumors (lengthwise diameter 2.5-10 mm, anteroposterior diameter less than 16 mm) and large (lengthwise diameter more than 10 mm, anteroposterior diameter more than 16 mm). Retrospective studies of the effectiveness and safety of radiotherapy compared to surgical measures have shown that there are no significant differences between the two treatment methods, thereby reducing enucleation rates especially in eye hospital centers in European and American countries (staff, 1998)

Enucleation indications in choroidal melanoma in beside the tumor size, the presence of invasion of the optic disc, an extension to the ciliary body, irreversible decreased visual acuity, complications of secondary glaucoma. Enucleation is proven to be still effective in the management of melanoma, especially in large-sized melanomas where conservative therapy cannot be carried out

In this patient, the chosen management is bulbi enucleation of the left eye, the selection of enucleation due to poor visual acuity, retina ablation, to know whether there was metastasis to the bulbi posterior.
Leiomyoma has a characteristic clinical sign of an orange dome-shaped mass, usually on a ciliary body there is a prominent intrinsic vascularization, present in young women, one of the distinguishing features is prominent light transmission on transillumination (shield et all. 2008), not like another solid intraocular mass, leiomyoma can mimic amelanotic melanoma, schwannoma, neurofibroma, limfoma, and metastasis tumor (jeon et al. 2002)

Uvea Leiomyoma can show slow growth and spread into the anterior chamber (Biswas, 2000), also can provoke ocular complication such as lens subluxation, glaucoma, and retina ablation (Shield et al, 2008). Patient in this case, the size of the tumor expected to be large and caused retina ablation and poor visual acuity.

Ultrasonography B Scan imaging examination is an examination to distinguish leiomyoma from melanoma. Leiomyoma on ultrasonography showed dome-shaped which similar to melanoma imaging. Leiomyoma sometimes can be identified in suprauveal location, extrinsic part of the choroid, or in the ciliary body (shield, 2009). In MRI imaging, hard to distinguish leiomyoma with schwannoma and malignant melanoma. MRI showed hyperintense imaging in T1 weighted imaging and hypointense in T2, all imaging shows contrast enhancement. In this case, definite diagnose can't be made based on ultrasonography and MRI but by histopathological examination.

CONCLUSION

The incidence of leiomyoma is very rare, patients with leiomyoma are difficult to distinguish from uveal amelanotic melanoma based on clinical symptoms and imaging features. Both can show imaging like a dome, unpigmented, smooth tumor surface, in the form of a solid vascular mass originating from the uvea and can expand beyond the sclera. We suspect the patient with chroidal melanoma with anatomical pathology examination results showed morphological features tending to be benign spindle cell neoplasm with differential diagnosis fibroma, leiomyoma. Hopefully, this case report can help distinguish between benign leiomyoma and malignant melanoma so can determine the appropriate therapeutic modality

REFERENCES

1. Barr, C.C., I.W. McLean, and L.E. Zimmerman. Uveal melanoma in children and adolescents. Arch Ophthalmol. 1981. Vol. 99:2133-6.
2. Biswas, J., S.K. Kumar, L. Gopal, and M.P. Bhende. Leiomyoma of the ciliary body extending to the anterior chamber: Clinicopathologic and ultrasound biomicroscopic correlation. Surv Ophthalmol. 2000. 44:336–42.
3. Blodi, F.C. Leiomyoma of the ciliary body. Am J Ophthamol. 1950. 33: 939–942
4. Gunduz, K., J.A. Shields, C.L. Shields, and R.C. Eagle. Cutaneous melanoma metastatic to the vitreous cavity. Ophthalmology. 1998. Vol. 105:600-5.
5. Jeon, Y.K., H.J. Cha, N.R. Kim, C.J. Kim, and J.G. Chi. Leiomyoma in the posterior choroid: a case report. J Korean Med Sci. 2002. 17: 429–433.
6. Shields, C.L., M. Furuta, A. Thangappan, S. Nagori, A. Mashayekhi, D.R. Lally, C.C. Kelly, D.S. Rudich, A.V. Nagori, O.A. Wakode, S. Mehta, L. Forte, A. Long, E.F. Dellacava, B. Kaplan, and J.A. Shields. Metastasis of uveal melanoma millimeter-by-millimeter in 8033 consecutive eyes. Arch Ophthalmol. 2009. 8:989–98.
7. Shields, J.A. and C.L. Shields. Intraocular Tumors: An Atlas and Textbook. 2nd ed. Lippincott Williams and Wilkins. Philadelphia. 2008a.
8. Shields, J.A. and C.L. Shields. Posterior uveal melanoma: Clinical features. Intraocular Tumors. An Atlas and Textbook. 2nd ed. Lippincott Williams and Wilkins. Philadelphia. 2008b.
9. Staff, Collaborative Ocular Melanoma Study. The Collaborative Ocular Melanoma Study (COMS) randomized trial of pre-enucleation radiation of large choroidal melanoma III: local complications and observations following enucleation. Am J Ophthalmol. 1998. Vol. 126:362-72.
10. Wenjun,, L., E.S. Gragoudas, and K.M. Egan. Metastatic melanoma death rates by anatomic site after proton beam irradiation for uveal melanoma. Arch Ophthalmol. 2000. Vol. 118:1066-70.