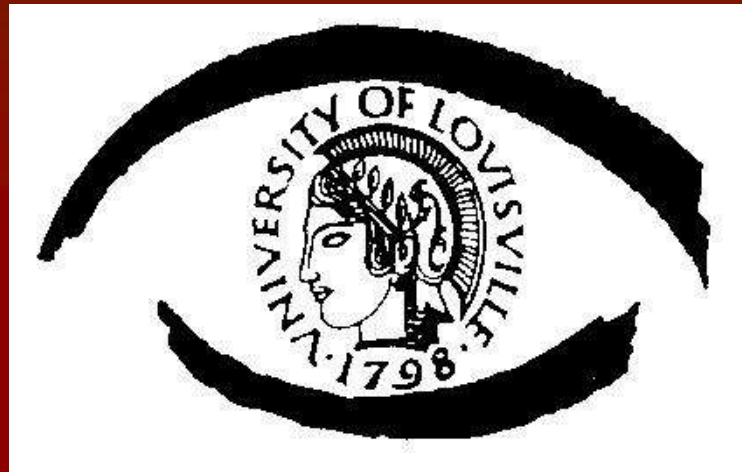


Grand Round



Mugen Liu, M.D.

University of Louisville

Department of Ophthalmology and Visual Sciences

11/12/10

Presentation

CC: “My vision is blurry”

HPI: 46 y/o, WM, presented with blurry vision with a dull ache in his right eye for 3 weeks. No floaters or flashes of light.

ROS: Intermittent HA

POH: OTC Readers

PMH: Migraine x 30 yrs

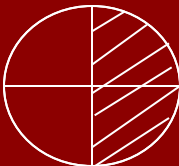
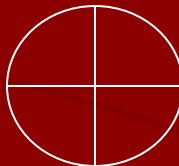
Meds: None

ALL: NKDA

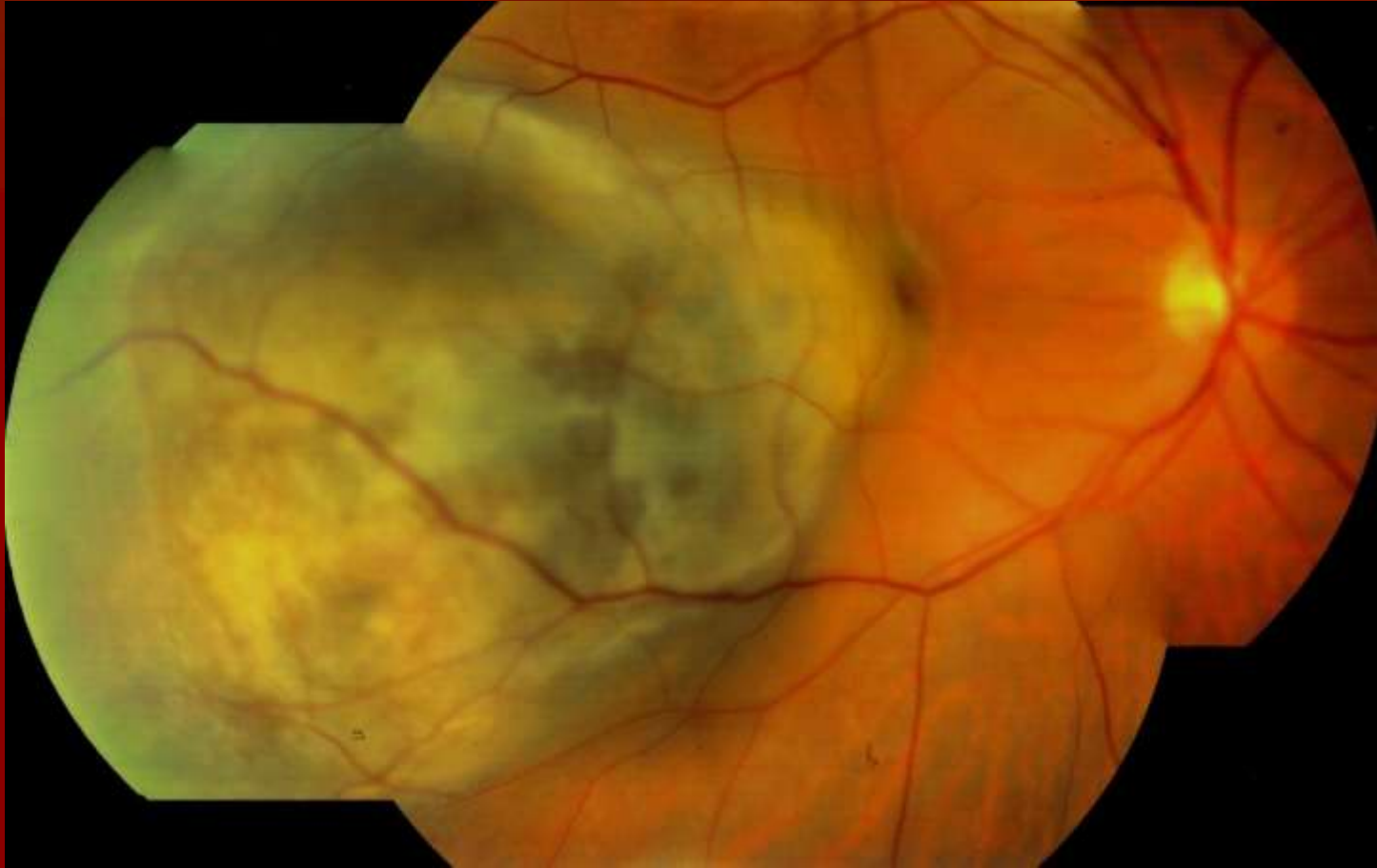
SH: Smoking, no EtOH, unemployed, lives with mom

FH: Negative

Examination

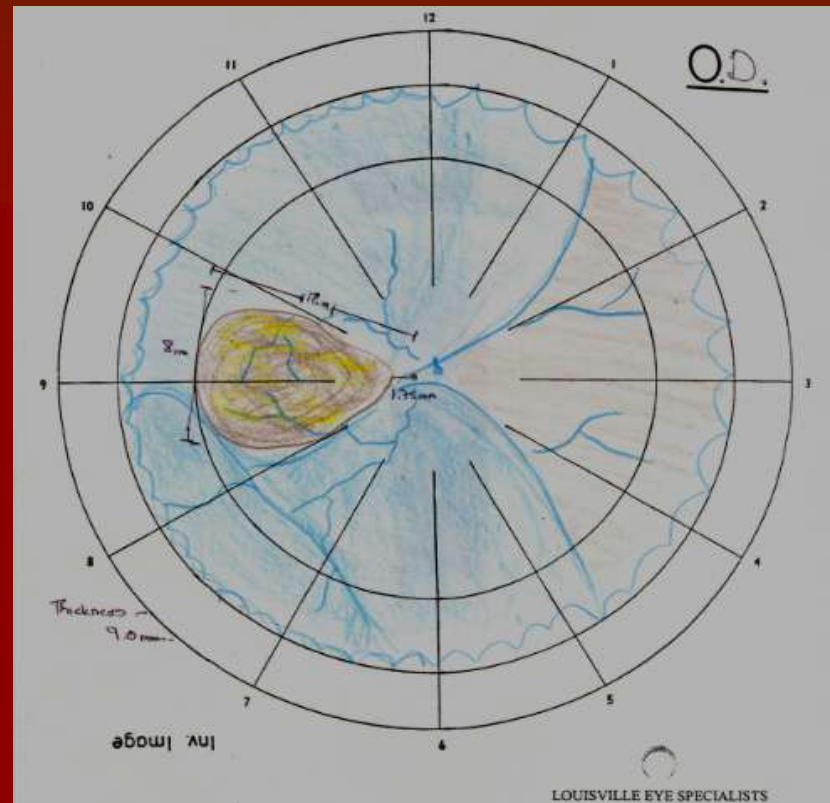
	OD	OS
<u>BCVA:</u>	20/30 (eccentric fixation)	20/20
<u>IOP:</u>	12 mmHg	18mmHg
<u>Pupils:</u>	R&R	OU No APD
<u>EOM:</u>	Full	OU No diplopia
<u>CVF:</u>		
<u>Anterior Segment:</u>	WNL	OU

Fundus Photo OD



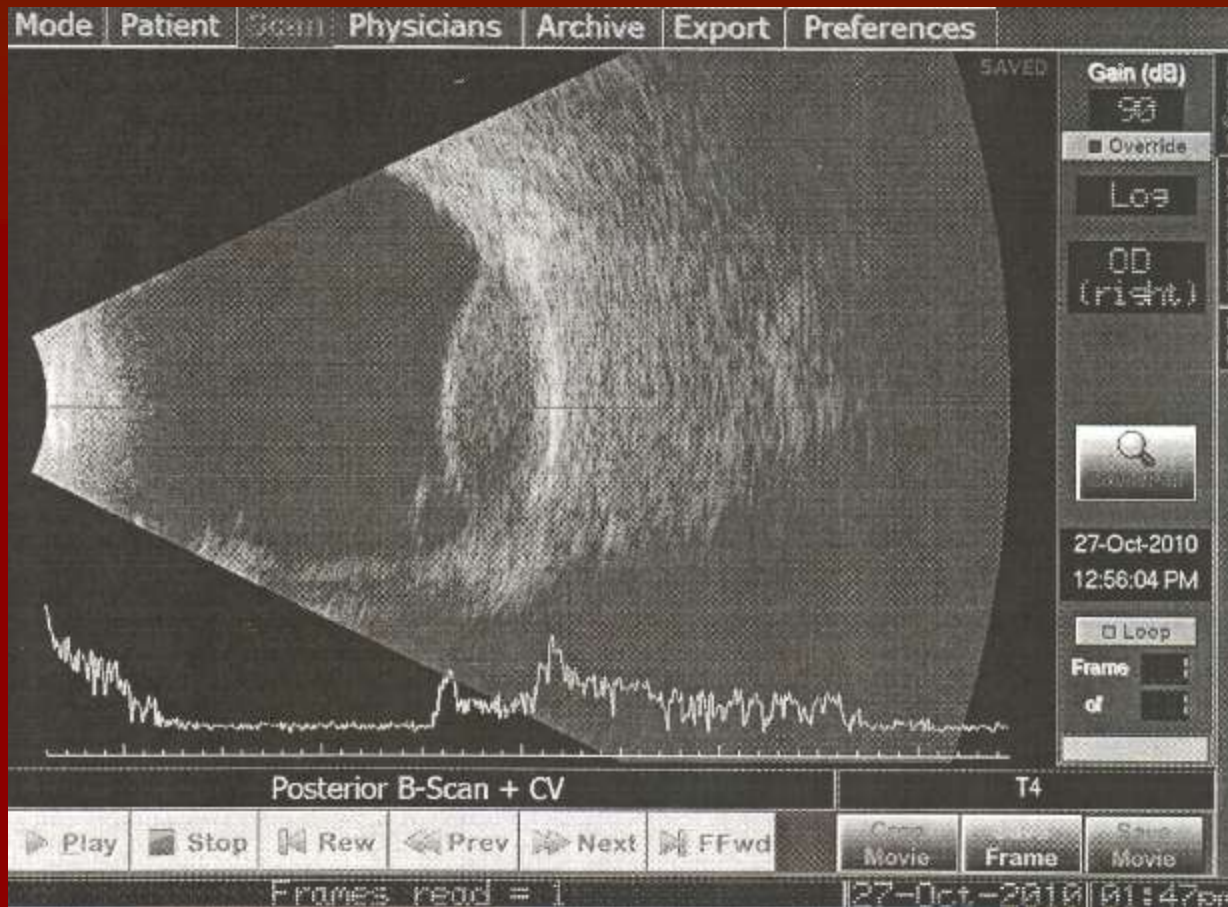
Color fundus photo of the right eye demonstrating a large posterior subretinal mass.

Retinal Chart OD



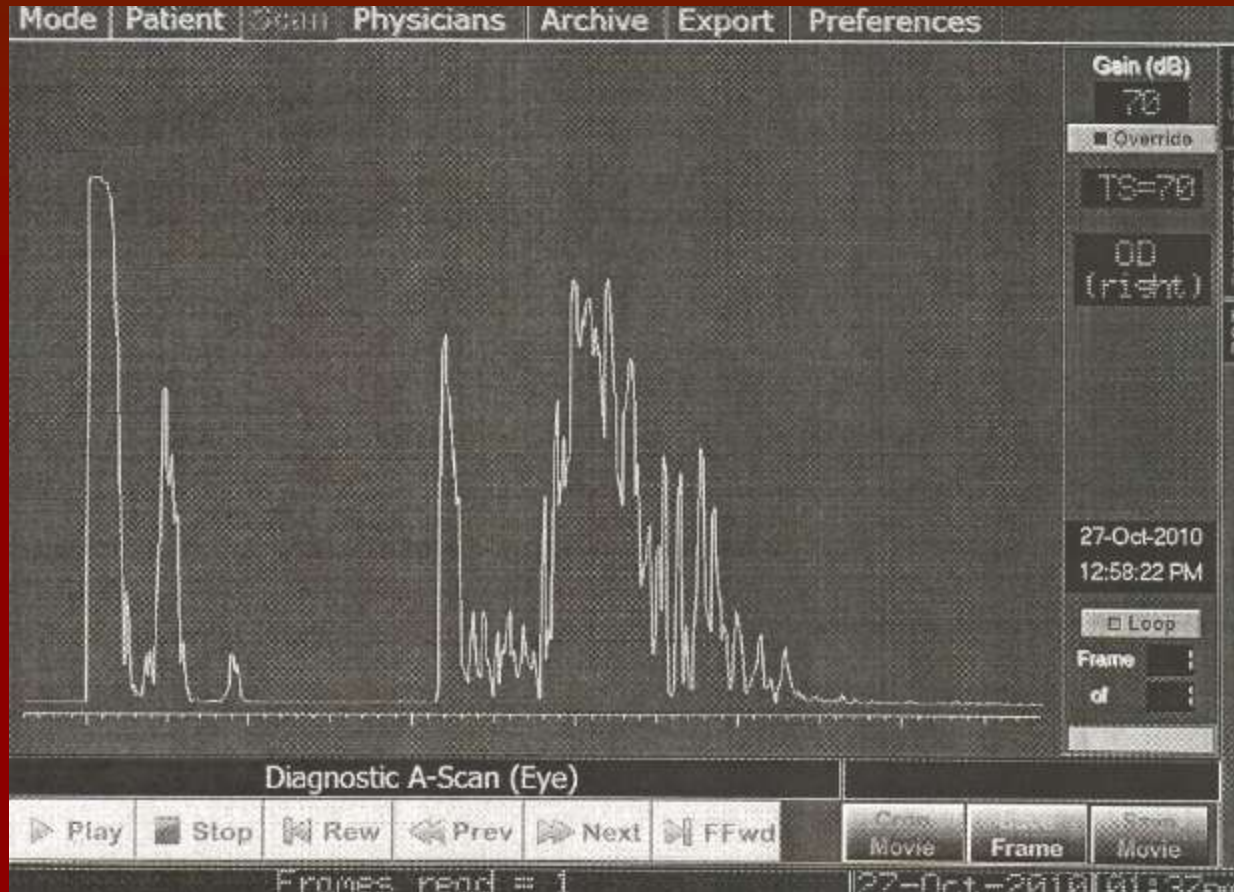
Retinal drawing of the right eye recorded a 12 x 8mm mass located 1.75 mm temporal to fovea

Ultrasound OD



B-scan ultrasound of the right eye showing a homogenous domed-shaped choroidal mass (5.45mm in height and 12.65mm in diameter) with the adjacent serous retinal detachment .

Ultrasound OD



A-scan ultrasound of the right eye demonstrating a crescendo/decrescendo pattern with a low internal reflectivity. Apical height = 9mm.

Impression

- 46 yo, WM, decreased vision OD, with a subretinal mass.

DDx:

- Choroidal melanoma
- Metastatic tumor
- Other tumors: retinal cavernous hemangioma, choroidal osteoma, melanocytoma, lymphoid tumor

Plan

- CT-Head, chest, abdomen; liver function test
- Referred to the Brown Cancer Center for further workup
- ^{125}I plaque brachytherapy vs enucleation

Malignant Choroidal Melanoma

- Most common intraocular primary malignancy in adult
- Incidence:
 - 6/1,000,000
 - Caucasian 7.5/1,000,000
 - Peaked incidence at 5th decade of life
 - M > F
- Etiology:
 - Environmental: Sunlight exposure
 - Genetic: FH h/o uveal melanoma
- Pathology:
 - Arises from uveal nevi or *de novo*
 - Cell type: spindle A, spindle B, and epithelioid
 - Benign nevi – spindle A
 - Spindle cell melanoma – spindle A and B
 - Epithelioid cell melanoma
 - Mixed cell melanoma– epithelioid and spindle cells

Malignant Choroidal Melanoma

■ Diagnosis:

- Fundus exam
- Ultrasound: characterized pattern – high diagnostic accuracy
 - A-scan: apical height
 - B-scan: longest base diameter
- CT and MRI: less sensitive, r/o extrascleral extension
- FA and ICG: hypofluorescent early, pinpoint leakage late
- Fine needle biopsy and incisional biopsy: rarely required

■ Metastasis w/u

- Liver enzyme and imaging
- MRI brain and orbit
- CT-chest, abdomen, pelvis

Malignant Choroidal Melanoma

- Treatment
 - Primary tumor:
 - The Collaborative Ocular Melanoma Study (COMS)
 - Metastasis: Systemic chemotherapy

The Collaborative Ocular Melanoma Study (COMS)

Size		Treatment
Probable choroidal nevi	<5.0mm x 1.0mm	Treat after an observed growth <ul style="list-style-type: none">■ Photocoagulation and cryotherapy■ Irradiation■ Enucleation
Small	5.0~16mm x 1.0~2.5mm	
Medium	<16mm x 2.5~10.0mm	Enucleation vs iodine brachytherapy: similar survival rate
Large	>16mm x 10.0mm	Enucleation vs pre-enucleation radiation: similar survival rate in the 1 st 8 years after diagnosis

Malignant Choroidal Melanoma

- Prognosis
 - 10 year survival rate: 50-70%
 - Poor prognosis features:
 - Larger size
 - Anterior location
 - Trans-scleral extension
 - Growth through the Bruch membrane
 - Optic nerve extension
 - Lack of pigmentation
 - Histological characteristics: 5 year survival rate <30% in epithelioid
 - Mortality 2nd to metastasis
 - Common sites: Liver (92%), skin, lung
 - Highest metastatic incidence: 1st year after diagnosis
 - Mean survival after metastasis: 9 months
 - Visual impairment: from tumor growth and/or side effect of the treatment

Reference

- Singh AD, Kivelä T. The collaborative ocular melanoma study. *Ophthalmol Clin North Am*. 2005 Mar;18(1):129-42, ix.
- Mortality in patients with small choroidal melanoma. COMS report no. 4. The Collaborative Ocular Melanoma Study Group. *Arch Ophthalmol*. 1997 Jul;115(7):886-93.
- McCannel TA, Burgess BL, Rao NP, Nelson SF, Straatsma BR. Identification of candidate tumor oncogenes by integrative molecular analysis of choroidal melanoma fine-needle aspiration biopsy specimens. *Arch Ophthalmol*. 2010 Sep;128(9):1170-7.
- Moy CS. Evidence for the role of sunlight exposure in the etiology of choroidal melanoma. *Arch Ophthalmol*. 2001 Mar;119(3):430-1.
- Sobottka B, Kreissig I. Ultrasonography of metastases and melanomas of the choroid. *Curr Opin Ophthalmol*. 1999 Jun;10(3):164-7.

Thank you