Reasons to Biopsy

1) Atypical Tumor
2) Metastatic Tumor with no discoverable source.
3) Patients want a pathology diagnosis
4) To obtain genetic tumor information

Risks of Biopsy

1) Hemorrhage **(Common)**

Rare:

2) Retinal Detachment
3) Optic Nerve Trauma
4) Infection
5) Tumor cell spread
6) Loss of vision
7) Loss of eye
8) Loss of life
9) Anesthesia

COMS

The **C**ollaborative **O**cular **M**elanoma **S**tudy found that plaque radiation therapy was equal to removing the eye to prevent metastasis from medium-sized choroidal melanoma.

The **COMS** also found that trained eye cancer specialists correctly diagnosed choroidal melanomas **99.6%** of the time (without a biopsy). Dr. Finger was a principal investigator for the COMS for 12 years.

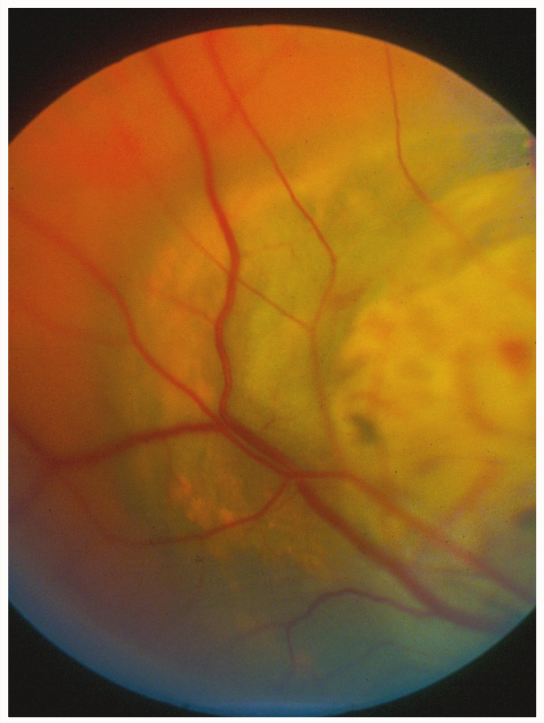
Most eye cancer specialists agree that if they examine a choroidal tumor with gross orange pigment, sub retinal fluid and thickness > 2 mm it is a melanoma.

THE NEW YORK EYE CANCER CENTER
115 East 61st Street, New York City, NY 10065

Telephone USA: 1212-832-8170

pfinger@eyecancer.com

MOST



Dr. Finger invented a way to remember the 3 most common characteristics of choroidal **M**elanoma = **O**range Pigment, **S**ubretinal Fluid and **T**hickness typically >2.0 mm

The diagnosis of choroidal melanoma can be determined by Dr. Finger (99.6% of the time) without a biopsy.

Calculation of a patient's risk for metastasis is complicated. It includes such factors as the original tumor size, the patients age, immune status and the tumor's genetics. All those factors cannot be controlled or changed to improve survival. In contrast, the most important and controllable factor which CAN affect survival is total, initial destruction of the choroidal melanoma.

The AJCC Ophthalmic Oncology Task Force has found that failure of initial treatment means that after treatment the patient is walking around with live tumor that can spread.

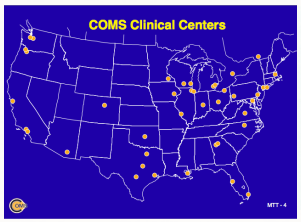
Dr Finger says, "Until we have an effective systemic treatment, prevention of metastasis by initial destruction of the intraocular melanoma is the best way to survive."

ABOUT GENETIC ANALYSIS

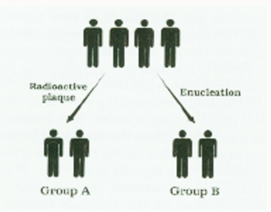
Many factors will influence an individual patients chances to develop metastatic choroidal melanoma. These factors include but are not limited to patients age, tumor's size, extrascleral extension **AND** the tumors genetic type. Of these factors, the largest of most statistically significant risks are patient age, tumor size if the intraocular tumor recurs after initial treatment.

COMS:

The COMS stands as the most well organized, prospective study on choroidal melanoma. The COMS specialists did an analysis of multiple factors that might effect the risks for tumor spread. They found that older patient age and larger tumor size were the most significant risk factors for metastasis. This study was before genetic analysis.



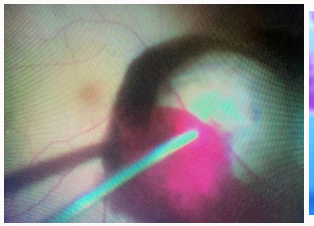
COMS Study Sites



Medium-Sized Choroidal Melanoma Trial

TUMOR GENETICS:

Monosomy 3, GEP 1, 1a and 2 analysis, BAP-1 and other choroidal melanoma biomarkers have been used to quantify risk for tumor spread. However, these biomarkers do not take into account the risk of biopsy-related tumor seeding nor the immune status/age of the patient. Lastly, there is no current genetics-based treatment for choroidal melanoma.

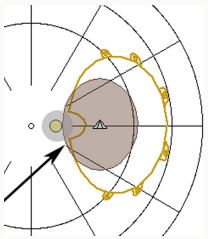


Biopsy related tumor hemorrhage makes plaque placement more difficult.

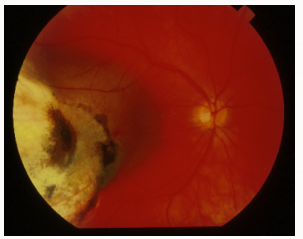
Chromosomal and RNA analysis can be performed

FAILURE OF LOCAL TREATMENT:

A multi-center international registry study conducted by The AJCC Ophthalmic Oncology Task Force evaluated the risk of failure of local control on the risk of metastasis. Data from 3217 patients was analyzed to that local tumor recurrence significantly increased the risk of metastatic melanoma ($P<0.001$, Hazard Ratio 6.28)



Radiation plaque not covering the entire tumor



Melanoma growing beyond the TTT laser