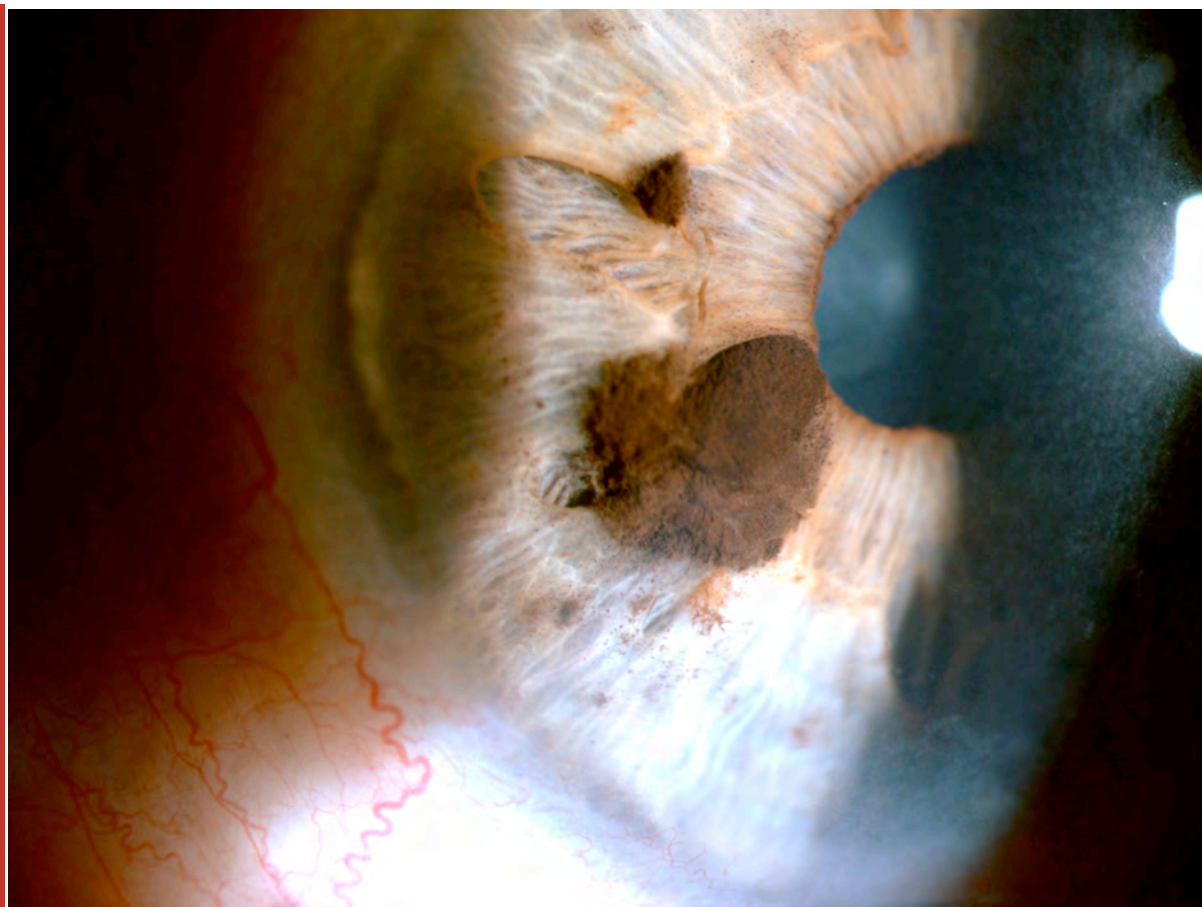


IRIS AND CILIARY BODY TUMORS

April 24, 2012



Iris Melanoma

Surgery Versus Radiation Therapy

By Paul T. Finger, MD

Information to help you make the best decision!

Surgical removal of the iris and ciliary body (called iridectomy, iridocyclectomy or eye wall resection) has been associated with risks of tumor dissemination, intraocular hemorrhage, lens dislocation and retinal detachment.

Iridectomy also causes enlarged pupils and therefore lifelong problems with glare. So, over 30-years ago I

wondered why patients have to lose their iris and risk intraocular complications to have their tumor treated. My subsequent experience with plaque radiation for anterior segment tumors (melanoma, carcinoma), proved that plaque radiation offers preservation of the iris and its function.

My subsequent published reports have demonstrated local control rates of over 97% and almost no risk for

radiation damage to the macula or optic nerve.

In our recent report of patients treated with plaque radiation therapy for iris melanoma we noted that most patients developed cataract, but all were able to have cataract surgery to correct their vision.

“I believe there is little reason to perform surgical excision to treat iris and ciliary body melanomas.” - Dr. Finger

Uncovering the Anterior Segment

UBM: High Frequency Ultrasound Imaging

High-frequency ultrasound imaging (UBM) has revolutionized the practice of ophthalmology and ophthalmic oncology. It allows us to visualize the deep margins and measure eyelid, conjunctival, iris, iridociliary and anterior uveal tumors.

As seen below, ultrasound can easily differentiate between a cystic mass and a solid iridociliary tumor. Ultrasound images of the underlying iris and adjacent ciliary body allow us to “see” in previously obscure parts of the eye.

Dr. Finger and associates originally described the use of UBM for measurement of anterior **melanomas** before and after plaque radiation treatment. We were the first to describe its use to find hidden **retinoblastoma** tumors behind the iris and lens and pioneered its use to determine if **conjunctival squamous carcinoma** has invaded the eye.

“All iris tumors should have an initial evaluation that includes high frequency ultrasound imaging (UBM) and digital photographic imaging.”

“There is no better way to assess their posterior and lateral extent nor properly monitor for tumor growth.”

- Paul T. Finger, MD

High-Frequency Ultrasound Characteristics of 24 Iris and Iridociliary Melanomas: Before and After Plaque Brachytherapy. Finger PT, Reddy S, Chin K. Archives Ophthalmology 2007;125(8): 1051-1058.

High-Frequency Ultrasonographic Evaluation of Conjunctival Intraepithelial Neoplasia and Squamous Cell Carcinoma. Finger PT, Tran HV, Turbin RE, Perry HD, Abramson DH, Chin K, Della Rocca R, Ritch R. Archives of Ophthalmology 2003;121:168-172.

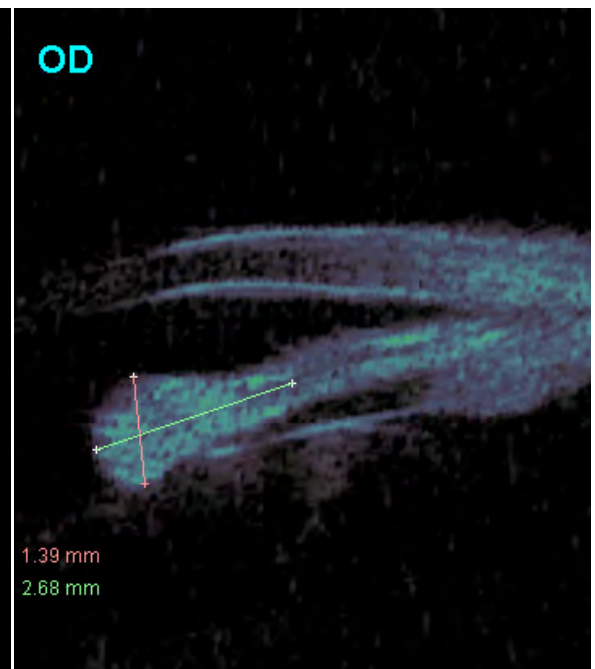
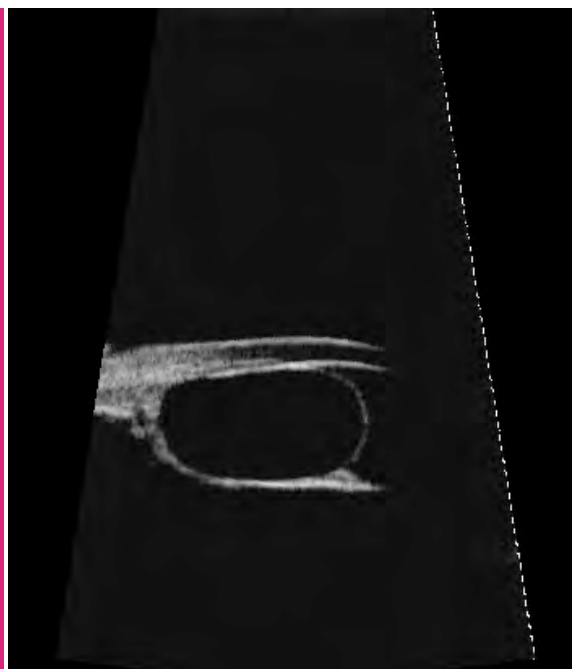
High-frequency ultrasound imaging of periocular hydrocystomas. Chin K, Finger PT, Iacob C. Optometry. 2003;74(12):760-4.

High-frequency ultrasound of anterior segment retinoblastoma. Finger PT, Meskin SW, Wisnicki HJ, Albekioni Z, Schneider S. American Journal of Ophthalmology 2004 May;137(5):944-6.

UBM Images:

Left, note an iris cyst has broken through and fills part of the anterior segment.

Right, A melanoma both fills the angle, but also extends into the supraciliary space.

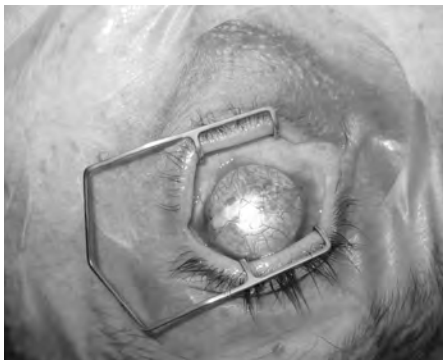


Iris Melanoma

New Insights into a Rare Eye Cancer

Members of the AJCC-UICC Ophthalmic Oncology Task Force performed an international, multi-center, internet-assisted study that demonstrated collaboration among eye cancer specialists to stage and describe the clinical and pathologic characteristics of biopsy proven malignant melanoma of the iris. This study included 18 eye cancer specialists from 8 tertiary care centers in the USA, The Netherlands, Sweden, Finland, Canada and the United Kingdom. All patient information was privacy protected.


Limited to biopsy proven iris melanomas, data was available for 131 patients. Significant patient findings included a mean age of 64, light irides in 91% and that the iris melanomas were located in the inferior “sun exposed” quadrants in most cases. Their AJCC classifications were T1 in 56%, T2 in 34%, T3 in 2% and T4 in 1%. Histopathology revealed that



Intraoperative photograph

A gold eye plaque sewn as to cover the entire anterior segment, including the diffuse iris melanoma.

Iris Melanoma Database



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- Training
- Online Data Entry
- Participating Sites
- Contact Information

What is the Iris Melanoma Database?

- This is the first internet-based database for registering patient and tumor-related characteristics for biopsy proven iris melanomas.
- It is part of an international eye cancer database project.

Why do we need the Iris Melanoma Database?

- There are no large studies of iris melanoma and none are multicenter nor international
- It is not clear which clinical characteristics are diagnostic of malignancy or suggestive of metastasis.
- No TNM staging system has been used to define tumor size or location (e.g. AJCC-UICC).
- There is a need to foster multicenter, international cooperation in the field of ophthalmic oncology.

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54% were spindle cell melanomas, 28% were mixed. Overall, Kaplan-Meier analysis found a 10.7% risk of metastatic melanoma at 5-years.

Multi-center data collection diminished selection bias and allowed for analysis of larger (more statistically significant) numbers of cases.

Dr. Finger, Chair of the AJCC Committee noted that, “this was the first internet-based study of iris melanoma. It was used to pool high quality multi-center data for analysis of iris melanoma diagnosis and

treatment.”

CONCLUSIONS:

Most iris melanomas were:

- Brown
- In the bottom iris quadrants
- In patients with light irides
- More dangerous than expected

REFERENCE:

Clinical and Pathologic Characteristics of Biopsy-Proven Iris Melanoma: A Multicenter International Study. Khan S, Finger PT, Yu GP, Razaq I, Jager M, De Keizer RJ, Sandkull P, Seregard S, Gologorsky D, Scheffler AC, Murray TG, Kivela T, Giuliani GP, McGowan H, Simpson ER, Corriveau C, Coupland SE, Damato BE. *The Archives of Ophthalmology* 2012;130:57-64.

optic neuropathy or neovascular glaucomas have been noted.

Dr. Finger points out that in contrast to enucleation (loss of the eye), this group of patients have clearly benefited from this technique.”

REFERENCE:

Multifocal iris melanoma treated with total anterior segment palladium-103 plaque radiation therapy. Petousis V, Finger PT, Milman T *Graefes Archive for Clinical and Experimental Ophthalmology* 2011;249(6):937-40.

Total Anterior Segment Plaque Radiation

Multifocal iris and ring melanomas can be treated with ophthalmic plaque radiation therapy. Drs. Petousis and Finger reported the first case of palladium-103 ophthalmic plaque used to cover the entire anterior segment of patient after multifocal biopsy of her iris melanoma.

Since that time, 3 more patients have been similarly treated allowing those patients to keep their eyes and vision. Though all are expected to develop cataract, no radiation retinopathy,

Micro-Incision Iris Biopsy The Finger Iridectomy Technique (FIT)

Biopsy can be indicated for patients with anterior segment tumors. In the past, this either involved using a sharp edged needle or opening the eye to grasp and snip a sample for pathology.

In 2005, Finger and colleagues published their initial experience using a 25-gauge aspiration cutter, inserted into the anterior segment through clear cornea (under viscoelastic). Termed, the "Finger Iridectomy Technique" this innovation decreased the risk associated with sharp needle biopsy and did not remove as much iris as iridectomy.

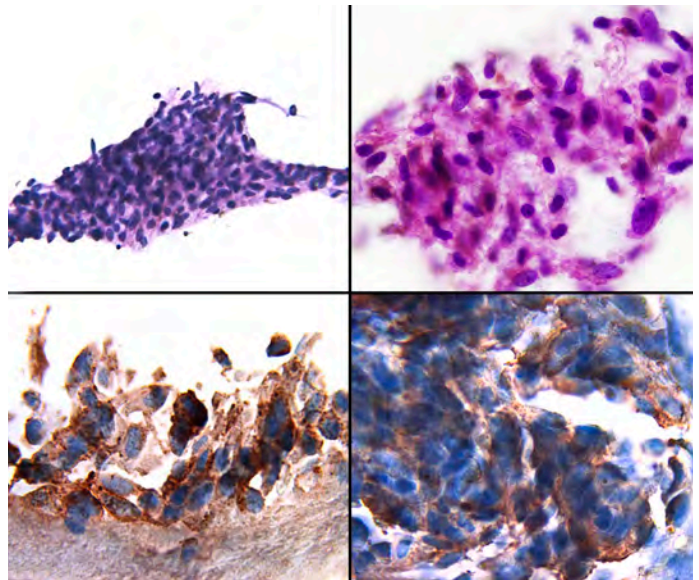
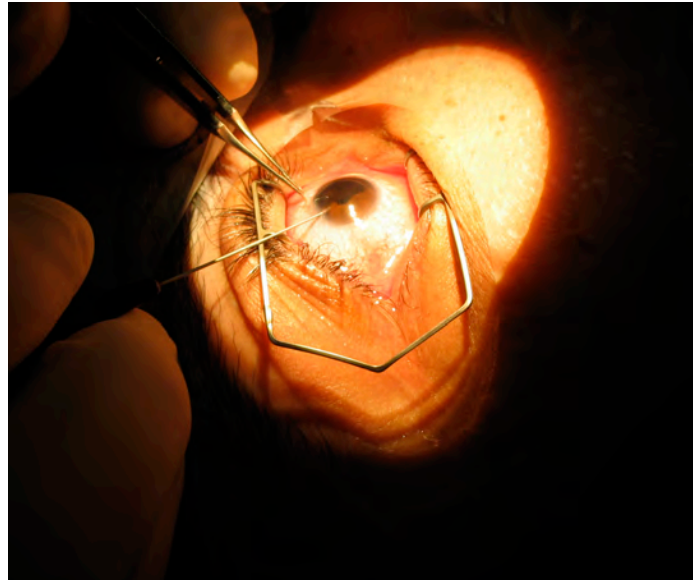
In 2011, Petousis and Milman published two related papers in *The American Journal of Ophthalmology*. The clinical paper found that small incision, aspiration cutter-assisted biopsy was safe and effective, with no cases of vision loss and 98% achieved a cytopathologic diagnosis. Further, Milman found that 41% contained enough material for cell-block preparations for more detailed pathologic study. Dr. Finger says, "it has been my experience that my technique is a safer and more effective method to obtain iris tumor biopsy material compared to the fine needle technique."

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Anterior segment tumor biopsy using an aspiration cutter technique: Clinical experience. Petousis V, Finger PT, Milman T. **American Journal of Ophthalmology** 2011;152:771-5.

Anterior segment tumor aspiration cutter assisted biopsy: Experience with pathology. Milman T, Petousis V, McCormick SA, Finger PT. **American Journal of Ophthalmology** 2011;152:776-83.



About Paul T. Finger, MD

Clinical Professor of Ophthalmology, Dr. Finger is a specialist in ocular tumors, orbital diseases and ophthalmic radiation therapy. He has developed new methods for the diagnosis and treatment of many ocular tumors, holds several patents and has written hundreds of scientific publications.

Dr. Finger is invited to lecture frequently at local, national and international meetings. He is founding Director of The New York Eye Cancer Center and The Ocular Tumor Services of The New York Eye and Ear Infirmary and NYU School of Medicine.

Dr. Finger is the Chair of the (AJCC) American Joint Committee on Cancer's Ophthalmic Oncology Task Force and a member of the Committee on Cancer (COC) of the American College of Surgeons. Further, he consults for The American Brachytherapy Society (ABS) and the Association for Physicists in Medicine (AAPM).

For more information visit his web site: <http://paultfingermd.com>