

PRELIMINAR RESULTS OF FRACTIONATED CYBERKNIFE RADIOSURGERY FOR UVEAL MELANOMA

I. Bossi Zanetti¹, M. Pellegrini², G. Beltramo¹, A. Bergantin¹, A.S. Martinotti¹,
I. Redaelli¹, P. Bonfanti¹, C. Spadavecchia¹, L.C. Bianchi¹, G. Staurenghi²

¹ *Cyberknife Center, Centro Diagnostico Italiano, Milano*

² *Eye Clinic, Ospedale Luigi Sacco, Università degli Studi di Milano, Milano*

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STUDY POPULATION

- **April 2014 - March 2016: 12 patients**
(11 choroidal melanoma and 1 ciliary body melanoma)
- **Mean Age : 65 years old (range 36-83 years)**
- **Mean tumor Base: 11.75 mm (range 7 - 15 mm)**
- **Mean tumor Thickness: 4.62 mm (range 2.5 - 10 mm)**
- **Mean distance from Fovea: 5.06 mm (range 0 - 15mm)**
- **Mean distance from Optic Nerve: 6.07 mm (range 0 - 13 mm)**

METHODS

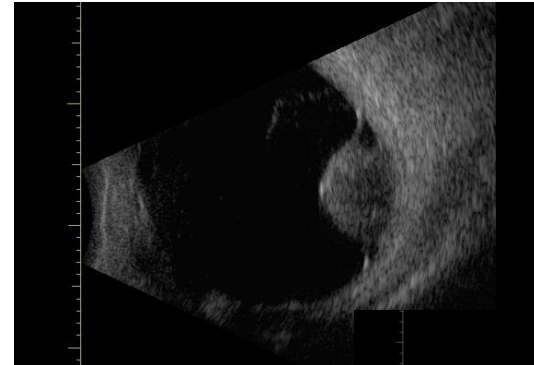
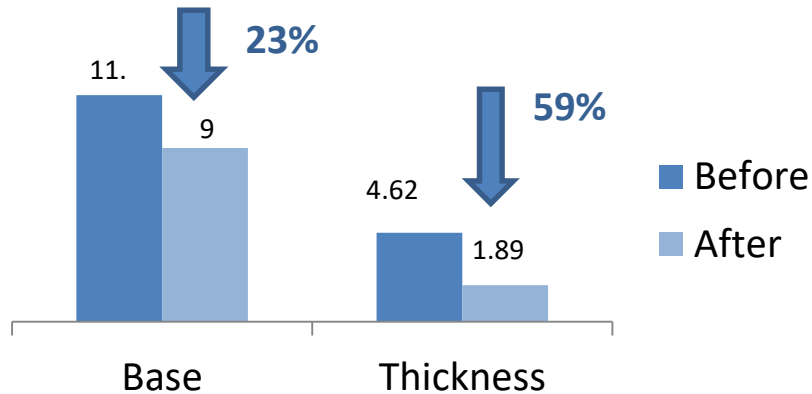


- **All patients treated eyelids closed, using a termoplastic mask for contention, with 6D skull tracking modality.**
- **T1 and T2 gadolinium orbit MRI (slices every 1 mm) fused with CT scan (slices every 0.6 mm).**
- **To verify Target and OAR positions: CT scan before every fraction.**
- **CTV (= GTV) = the contrast – enhancing lesion on MRI.**
- **PTV = CTV + 2.5 mm margins in all directions, mean PTV volume 2037 mm³ (range 701.82 - 5792 mm³).**
- **Total dose (mean): 60 Gy (45 – 60) in 3 fractions (3 – 4) of 20 Gy (15 – 20) prescribed to a mean 80% (79 – 82) isodose surface.**

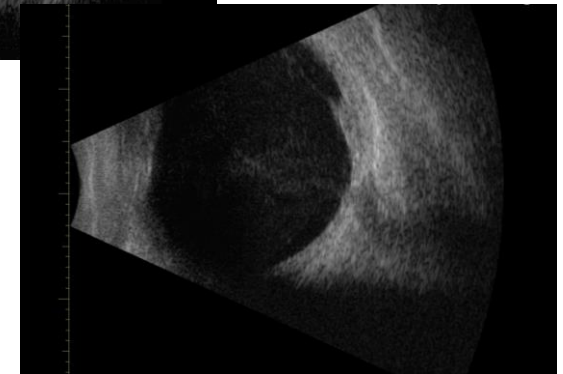
RESULTS

Median follow - up: 42.5 months (range 11 – 59 months)

- **Local control: 100%**
1 patient underwent enucleation for Neovascular Glaucoma and retinal detachment
- **The mean base reduction: 23%**
- **The mean thickness reduction : 59%**



PRE



POST

- **No distant metastases**
Follow-up with abdomen US/MRI every 6 months and thorax CT once a year

TOXICITY



- **To avoid toxicity: intravitreal anti-VEGF (+/- photodynamic therapy) and steroids 4 months after the treatment.**
- **Side effects:**
 - 1 patients underwent enucleation for Neovascular Glaucoma and Retinal Detachment.
 - 4 (33%) radiation - induced optic neuropathy, 7 (58%) radiation maculopathy, 4 (33%) radiation - induced vasculopathy , 6 (50%) choroidal ischemia, 1 ciliar loss.
 - None had corneal anomalies or cataracts.
- **Visual acuity \geq 20/200 in 8 (66%), reduced in 50% of patients.**

Intravitreal Bevacizumab at 4-Month Intervals for Prevention of Macular Edema after Plaque Radiotherapy of Uveal Melanoma

Sanket U. Shah, MD,¹ Carol L. Shields, MD,¹ Carlos G. Biamonte, MD,^{1,2} Juan Iturza-Gomara, MD,¹ Sand A. Al-Dahmesh, MD,² Emil Anthony T. Say, MD,¹ Joseph Badd, MD,¹ Arman Moshayebi, MD,¹ Jerry A. Shields, MD¹

Prophylactic Use of Bevacizumab to Avoid Anterior Segment Neovascularization Following Proton Therapy for Uveal Melanoma

IRMELA MANTEL, ANN SCHALENBOURG, CIARA BERGIN, ALEKSANDRA PETROVIC, DAMIEN C. WEBER, AND LEONIDAS ZOGRAFOS

CONCLUSIONS

THESE INITIAL RESULTS OF OUR CYBERKNIFE SCHEDULE SHOW A SAFE, MINIMALLY INVASIVE AND WELL TOLERATED METHOD FOR TREATING UVEAL MELANOMA.

MULTIDISCIPLINARIETY IS MANDATORY FOR PATIENTS SELECTION AND FOR CLINICAL AND TOXICITY MANAGEMENT.

LIMITS:

- **Restricted number of patients.**
- **Further follow-up is necessary to evaluate Late Toxicity and Results.**

FUTURE PROSPECTIVES:

- **Tantalum Marker Rings for Treatment Planning and Image Guidance.**

Thanks for your ATTENTION!

