

**SESSION 14**  
**UVEAL MELANOMA 4**

Shilpakalavedika Convention Center  
Tuesday, January 27, 2004  
2:00 PM – 4:00 PM

*Chair: Leonidos Zografos*  
*Co-chair: Rob de Keizer*  
*Moderator: Mahesh Shanmugam*  
*Session Summary: Mahesh Shanmugam*

	<b>Presenter</b>	<b>Title of Presentation</b>	<b>Time</b>
1	Dennis Robertson	Key Note Lecture: The COMS Experience: How is it Practically Applicable?	2:00 PM
2	Arun Singh	Special Lecture: Zimmerman Hypothesis Revisited	2:15 PM
3	Masood Naseripour	Partial Lamellar Sclerouectomy: A Safe Procedure for Saving the Eyes With Ciliary Body Tumor	2:25 PM
4	Vito Primavera	Choroidal Melanoma: Complications of Local Resection	2:35 PM
5	Norbert Bornfeld	Endoresection of Large Uveal Melanomas After Pretreatment by Single-Dose Stereotactic Convergence Irradiation with the Leksell Gamma-Knife	2:45 PM
6	Gerald Langmann	Endovaporisation for Large Uveal Melanomas with a Kalium Titanium Potassium (KTP) laser. Preliminary Results of a Pilot Study	2:55 PM
7	Paul Rundle	Bovine Pericardium (Ocuguard) Wrap for Hydroxyapatite Implants - A Review of 116 patients	3:05 PM
8	Mahesh Shanmugam	Session Summary	3:15 PM
9	Ralph Eagle	Unknown	3:20 PM
10	Jerry Shields	A Surprise Occurrence in a Case of Macular Degeneration	3:24 PM
11	Dennis Robertson	Doctor, Is there any Chance I can get a Melanoma in my Other Eye?	3:28 PM
12	Jean-Daniel Grange	A Case of Malignant Choroidal Melanoma Followed During 35 years Before Enucleation	3:32 PM
13	Vincenzina Mazzeo	In-Vivo Evaluation of a Rapid Growing Choroidal Melanoma and its Extraocular Extension	3:36 PM
14	Inna Sasim	Primay Choroidal Melanoma with Massive Extraocular Extension and Concurrent Non-Hodgkin B-cell Lymphoma	3:40 PM
15	Javier Elizalde	Orbital Recurrence of Uveal Melanoma after Transscleral Resection and Enucleation	3:44 PM
16	Paul Rundle	Simultaneous Enucleation and Partial Liver Resection for Metastatic Choroidal Melanoma	3:48 PM

**KEY NOTE LECTURE  
THE COMS EXPERIENCE: HOW IS IT PRACTICALLY  
APPLICABLE**

*Dennis Robertson*

*Mayo Clinic, Rochester, MN, USA*

**SPECIAL LECTURE  
ZIMMERMAN HYPOTHESIS REVISITED**

*Arun Singh*

*Cole Eye Institute, Cleveland Clinic Foundation, Cleveland,  
OH, USA*

**PARTIAL LAMELLAR SCLEROUVECTOMY: A SAFE  
PROCEDURE FOR SAVING THE EYES WITH CILIARY  
BODY TUMOR**

*Masood Naseripour, Ahmad Kheirkhah*

*Eye Research Center, Iran University of Medical Sciences,  
Tehran, Iran*

**PURPOSE:** To report two cases who underwent Partial Lamellar Sclerouvectomy (PLSU) for treatment of ciliary body tumor. **METHODS:** The left eye of an 81-year-old lady showed a large elevated mass in temporal part of ciliary body. She was referred for enucleation with diagnosis of malignant melanoma. The patient underwent PLSU and was followed for 12 months without any complication. The second case was a 25-year-old woman with a nonpigmented mass with superficial vascularization in inferior part of ciliary body. Due to progressive growth of the lesion, the patient underwent PLSU and was followed for 6 months. **RESULTS:** Histopathologic evaluation of both lesions revealed the presence of adenoma of nonpigmented ciliary epithelium. No recurrence or any significant complication developed during follow-up. **CONCLUSION:** PLSU can be used for treatment of selected cases of ciliary body tumors to prevent enucleation.

**CHOROIDAL MELANOMA: COMPLICATIONS OF LOCAL  
RESECTION**

*Vito Primavera, Cristiana, Giuseppe Querques, Nicola Delle  
Noci*

*University of Foggia - Institute of Ophthalmology, Foggia,  
Italy*

**PURPOSE:** To evaluate the safety and the complications of local resection for choroidal melanoma. **METHODS:** We treated 50 patients for malignant uveal melanomas, and both external and internal resection was performed either as a primary procedure or as a salvage procedure. We performed an external resection in 25 patients and in 25 patients we performed an internal resection because of the other conservative treatments were considered to have a high risk of causing severe visual loss. **RESULTS:** Complications occurred in external resections were: 4 vitreous hemorrhage, 2 retinal detachment, 3 residual tumor, 3 choroidal hematoma, during surgery; 2 hypotony, 4 vitreous hemorrhage, 2 choroidal hemorrhage, early after surgery; 4 recurrence, 2 retinal detachment, 2 atrophy, 2 metastasis, late after surgery. Complications occurred in internal resection were: 2 vitreous hemorrhage, 1 retinal detachment, 1 choroidal hematoma, 1 sub-macular hemorrhage during surgery; 2 hypotony, 5 vitreous hemorrhage, 2 cataract, early after surgery; 3 recurrence, 6 retinal detachment, 1 atrophy, 2 metastasis, late after surgery. **CONCLUSION:** Local resection of uveal melanomas allows in a large per cent of cases the retention of a cosmetically satisfactory globe and a useful vision.

**ENDORESECTION OF LARGE UVEAL MELANOMAS  
AFTER PRETREATMENT BY SINGLE-DOSE  
STEREOTACTIC CONVERGENCE IRRADIATION WITH  
THE LEKSELL GAMMA-KNIFE**

*Norbert Bornfeld, Harald Schilling, Silke Talies, Gerhard  
Horstmann, Gerasimos Anastassiou, Andreas Schüler*

*University of Essen, Essen, Germany*

**PURPOSE:** To investigate the short-term outcome of endoresection of large uveal melanomas in combination with pretreatment with stereotactic gamma-knife radiosurgery. **METHODS:** Noncomparative, consecutive interventional case series. Between March 2000 and November 2002 forty-six patients with large uveal melanomas underwent stereotactic radiosurgery (Leksell Gamma-knife) before endoresection of the tumor via a standard 3-port-vitreotomy including laser coagulation and tamponade with silicone oil. The average height of the tumors was 9.5 mm. The minimum dose delivered to the tumor volume was 25 Gy. The D90 (dose delivered to at least 90% of the target volume) was 36.3 Gy in average (SDEV 5.7 Gy). Adjuvant brachytherapy (ruthenium-106 plaque) with a scleral dose of 400 Gy was applied in selective cases. Rate of eye preservation, best corrected final visual acuity, incidence of local recurrences, rate of tumor-related deaths and metastases, and rate of complications. **RESULTS:** The average follow-up time was 436 days (SDEV: 208 days). In 40 cases (87 %) the eyes could be retained with a mean visual acuity of 0.21 (median of 0.2) with a VA of 0.1 or better in 30 cases (65.2 %) and 0.3 or better in 10 cases (21.7 %). Six eyes (13 %) had to be enucleated due to total exudative retinal detachment combined with secondary glaucoma soon after radiosurgery (3 cases) or to later complications related with endoresection surgery (3 cases). In 13 patients (28.2 %) additional major surgery was required mainly as a consequence of extensive, postoperative bleeding. Proliferative vitreoretinopathy was observed in 4 cases (8.7 %). Seven patients developed liver metastases during the follow-up (15.2 %, 6 patients died). No local recurrences or intraocular tumor cell spread were observed. **CONCLUSION:** The preliminary experience with combined radio- and endosurgical approach for treating large uveal melanomas appears to be a valid procedure, by which satisfactory functional results and a high rate of local tumor control can be achieved. The significance of additional brachytherapy has still to be elucidated.

**ENDOVAPORISATION FOR LARGE UVEAL MELANOMAS  
WITH A KALIUM TITANIUM POTASSIUM ( KTP)  
LASER. PRELIMINARY RESULTS OF A PILOT STUDY**

*Gerald Langmann , Werner Wackernagel, Andrea  
Langmann, Jürgen Faulborn*

*University Eye Clinic, Graz, Austria*

**PURPOSE:** Endoresection as introduced by Peyman and Damato may be associated with intraocular recurrences (Damato, Bornfeld), preliminary results of combined Gamma Knife radiosurgery and endoresection (Bornfeld) yield a high rate of tumor regression without intraocular recurrences so far. The aim of our study was to investigate tumor vaporization of large uveal melanomas by means of a Kalium Titanium Potassium (KTP) laser as an alternative therapy to enucleation. **METHODS:** In our pilot study 5 patients were treated with vitrectomy and endovaporisation with a Kalium Titanium Potassium (KTP) laser. Median base of the tumors was 14 mm (range 9 - 16 mm), median prominence 7; 1 mm (range 4.3 - 9 mm). Additional Ruthenium 106 brachytherapy (to treat the base of the tumors) was performed in all patients. **RESULTS:** After a median follow up of 1 year and 11 months (range 15 months - 41 months) all eyes but one could be preserved. Total regression (into a scar) occurred in 1/5 patients, partial tumor regression (residual tumor prominence median 2, 2 mm (range 1-7 mm) could be achieved in 3/5 eyes. One eye with a 17x18x 9mm ciliary body melanoma

had to be enucleated due to phthisis. Side effects limiting visual function were keratopathy (2), PVR (1) and maculopathy (2). So far no intra- or extraocular recurrence occurred, no secondary vitreoretinal surgery had to be performed. **CONCLUSION:** All but one tumor eye could be preserved by endovaporisation and additional Ruthenium 106 brachytherapy as an alternative therapy to enucleation. Technical improvement of our KTP laser device (combined KTP laser and endosuction device) can probably shorten the procedure, thus reducing the risk of keratopathy and avoiding the need of additional Ruthenium 106 brachytherapy.

#### **BOVINE PERICARDIUM (OCUGUARD) WRAP FOR HYDROXYAPATITE IMPLANTS: A REVIEW OF 116 PATIENTS**

*Paul Rundle, Mohit Gupta, Arun Singh, Ian Rennie*

*Royal Hallamshire Hospital, Sheffield, UK*

**PURPOSE:** To evaluate bovine pericardium (Ocuguard) as a wrapping material for hydroxyapatite implants in patients undergoing primary enucleation for uveal melanoma. **METHODS:** All patients who underwent primary enucleation for uveal melanoma between July 1998 and January 2003 were included in the study. Any patient with less than three months follow up was excluded. **RESULTS:** 116 patients (69 males and 47 females) were included in the study. Median age of diagnosis was 61.5 years (range 14-88 years). Surgery was performed by three surgeons. Median follow up was 2.9 years (range 8 months to 5.3 years). Only four patients (3.4 %) developed postoperative complications of wound dehiscence. In one patient the wound had to be resutured whilst three required implant exchange. The overall cosmetic result was excellent in 114 patients (98%). The rate of postoperative complications compared favorably with published data on other wrapping material/ implants. **CONCLUSION:** Ocuguard is a safe wrapping material for hydroxyapatite orbital implants in patients undergoing enucleation for uveal melanoma.

#### **SESSION SUMMARY**

*Mahesh Shanmugam*

*Sankara Nethralaya, Chennai, India*

#### **UNKNOWN**

*Ralph Eagle Jr, Jerry Shelds, Carol Shields*

*Wills Eye Hospital, Department of Pathology and Oncology Service, Philadelphia, PA, USA*

54 year-old woman with blind eye and epibulbar mass, status post cataract extraction, Ahmed valve implantation for neovascular glaucoma and scleral buckle for retinal detachment. Unknown case for diagnosis. Clinical and pathological findings will be shown.

#### **A SURPRISE OCCURRENCE IN A CASE OF MACULAR DEGENERATION**

*Jerry Shields, Carol Shields, Ralph Eagle*

*Wills Eye Hospital, Philadelphia, USA*

An elderly woman was found to have "macular degeneration" which underwent an interesting course of events, leading to bilateral blindness. It will be presented as a "believe it or not" unknown.

#### **DOCTOR, IS THERE ANY CHANCE I CAN GET A MELANOMA IN MY OTHER EYE?**

*Dennis Robertson*

*Mayo Clinic, Rochester, MN, USA*

A choroidal melanoma metastasized to the fellow eye within three months of enucleation.

#### **A CASE OF MALIGNANT CHOROIDAL MELANOMA FOLLOWED DURING 35 YEARS BEFORE ENUCLEATION**

*Jean-Daniel Grange, Michael, Bruno Jean-Louis, Myriam Spire, Moshgan Shishe-Boran Devouassoux, Alain Calender*

*Croix-Rousse Hospital, University Eye Clinic, Lyon, France*

**PURPOSE:** To present a case with exceptional long-standing evolution of choroidal melanoma. **METHODS:** A patient, male born in 1948, was referred for the first time in our clinic in January 1994 for a juxtapapillary amelanotic tumor on his left eye. A first diagnosis of hamartoma had been done previously in 1967, and then confirmed in 1986 in two other clinics. The vision was already reduced at that time to partial light perception and ultrasonography showed a 5.7-mm thickness and an 8.3 diameter, without choroidal excavation. 18 months later, a posterior uveitis was observed, in association with vitreous bleeding. In 1999 a pseudo increase of tumor diameter was noticed, but not found again 2 years later. **RESULTS:** An enucleation was performed in October 2002, due to a painful eye with rubeosis iridis. Pathologic findings showed a malignant choroido-ciliary melanoma without extrascleral extension, but with invasion of one third of the internal scleral wall. A majority of fusiform cells has been identified (>80%). Other extraocular investigations were normal (hepatic MRI, brain TDM, lung X-rays). An orbital irradiation was performed due to the scleral invasion in this context. **CONCLUSION:** Similar observations are exceptional in the ophthalmic literature. Two cases are known at least, with 17 and 41 years of follow-up before enucleation. Although the tumor localization was close to the optic disk with theoretically a less favorable prognosis, we noticed on the contrary a very high proportion of fusiform cells. Such a situation should find an explanation in cytogenetic study of the tumor or a misdiagnosis of associated really existing hamartoma.

#### **IN VIVO EVALUATION OF A RAPID GROWING CHOROIDAL MELANOMA AND ITS EXTRAOCULAR EXTENSION**

*Vincenzina Mazzeo Simonini, Giacomo Pasqualitto*

*Weill Medical College, Cornell University, New York, NY, USA*

An 80-year-old lady suffered of sudden vision loss in her right eye when returned in standing position after gardening. On ophthalmoscopy a malignant melanoma was discovered, it caused a vitreous hemorrhage and satellite retinal detachment. Because of her refusal of any kind of treatment she was followed. From October 2002 to September 2003 she underwent 6 ultrasound examinations (HiScan, Optikon 2000, Rome, Italy): At the second one extraocular extension was discovered. One orbital NMR failed to show it. Since then both the intraocular mass and the extension showed rapid growth. Although it is known that lateral dimension measures by ultrasound are less precise than thickness measures and that some uncertainties exist in positioning the markers on the images, the extraocular extension showed roughly three times increase both in thickness and in its largest lateral dimension. The intraocular lesion increased by two millimeters in thickness. Digital movie recording of the examinations started in December 2002 allowing volume reconstruction by image post

processing. No clinically evident metastases are present till today.

### **PRIMARY CHOROIDAL MELANOMA WITH MASSIVE EXTRAOCULAR EXTENSION AND CONCURRENT NON-HODGKIN B-CELL LYMPHOMA**

*Inna Sasim, Maarten Mourits, Jeroen Eijkel, A Verbeek*

*University Medical Center Utrecht, Ophthalmology Department, Utrecht, The Netherlands*

**PURPOSE:** The development of secondary extraocular malignancies is seen in 6% of patients with uveal melanomas. Extraocular extension of choroidal melanoma has been reported in 8% to 28% of patients. Possible association between cutaneous melanoma, chronic lymphatic leukemia and non-Hodgkin lymphoma has been suggested. **METHODS:** Case report **RESULTS:** An 80-year old Caucasian female developed diplopia and proptosis of the right eye and left-sided acute dacryocystitis. Investigation disclosed a pigmented lesion in the macula OD, presence of a massive tumor in the right orbit united with jugular, mediastinal and abdominal lymphadenopathy. A jugular gland biopsy revealed a small B-cell lymphoma, fine needle aspiration cytology of right orbit was positive for melanoma. After unsuccessful conservative treatment of the dacryocystitis a DCR was performed, also showing B-cell lymphoma. **CONCLUSION:** We report a rare case of primary choroidal melanoma with extrascleral extension and concurrent malignant non-Hodgkin B-cell lymphoma.

### **ORBITAL RECURRENCE OF UVEAL MELANOMA AFTER TRANSSCLERAL RESECTION AND ENUCLEATION**

*Javier Elizalde, Rafael Barraquer, Maria Saornil, Gonzalo Blanco*

*Barraquer Institute, Barcelona, Spain*

**PURPOSE:** To report a case of a massive orbital extension of a uveal melanoma after sequential transscleral local resection and enucleation. **METHODS:** Clinical observations and histopathological results of a 80 year-old female who developed both an intraocular recurrence of uveal melanoma after transscleral resection and a massive orbital extension after enucleation, are presented. **RESULTS:** An amelanotic extension within the anterior chamber was detected two years after transscleral resection of an anterior choroidal melanoma. One month after enucleation was performed, the patient noticed a "puffy" lower eyelid. An excisional biopsy revealed infiltration of malignant melanoma cells. Two weeks later, a rapid growing nodular lesion appeared in the lower lid. Clinical examination demonstrated a large multinodular subconjunctival mass (confirmed by MRI) in the inferior part of the orbit. After a negative systemic work-up the mass was excised with a radiofrequency unit and complimentary external radiotherapy was performed. Histopathologic study revealed nodular growth of epithelioid HMB-45 positive cells with high mitotic activity. No signs of orbital recurrence have been found in a 3-year follow up period. **CONCLUSION:** Orbital extension of uveal melanoma after eye saving surgical procedures is rare but feasible. In our series, over 37 consecutive eyes treated surgically (ab externo tumor excision) only one has developed this unusual complication.

### **SIMULTANEOUS ENUCLEATION AND PARTIAL LIVER RESECTION FOR METASTATIC CHOROIDAL MELANOMA**

*Paul Rundle, Arun Singh, Ian Rennie*

*Royal Hallamshire Hospital, Sheffield, UK*

A 67-year-old male was referred with a right choroidal

melanoma. Investigation revealed extrascleral extension as well as 3 discrete liver metastases. The patient underwent simultaneous primary enucleation with insertion of hydroxyapatite implant and partial hepatectomy. Post-operative recovery was uneventful and he remains well at 4 months follow-up. The rarity of detecting treatable metastases at initial presentation will be discussed.