

**SCIENTIFIC SESSION 2
TUMORS OF THE OCULAR SURFACE**

Shilpakalavedika Convention Center
Saturday, January 24, 2004
11:00 AM – 1:00 PM

*Chair: Joseph Frucht-Pery
Co-chair: Geeta Vemuganti
Moderator: Edoardo Midea
Session Summary: Ian Rennie*

	Presenter	Title of Presentation	Time
1	Jacob Pe'er	Key Note Lecture: Current Management of Ocular Surface Tumors	11:00 AM
2	Nibaran Gangopadhyaya	Limbus Dermoid: Presentation and Management	11:15 AM
3	M Sailaja	Application of Impression Cytology in the Diagnosis of Ocular Surface Squamous Neoplasia Employing the Biopore Membrane	11:25 AM
4	Rangarirai Masanganise	The Trend of Ocular Surface Squamous Neoplasias in Zimbabwe During the Last Decade of the Twentieth Century	11:35 AM
5	Roshmi Gupta	Clinical Course and Outcome in Ocular Surface Squamous Neoplasia	11:45 AM
6	Joseph Frucht-Pery	Treatment of Conjunctival and Corneal Intraepithelial Neoplasia with Topical Mitomycin C	11:55 AM
7	James Muecke	Mitomycin C as an Adjunct in the Treatment of Localised Ocular Surface Squamous Neoplasia	12:05 PM
8	Jacob Pe'er	Treating Conjunctival Primary Acquired Melanosis with Atypia by Topical Mitomycin C	12:15 PM
9	Eva Dafgard Kopp	Epiphora as a Side Effect of Topical Mitomycin C	12:25 PM
10	Seppo Tuomaala	Conjunctival Melanoma in Nonhispanic Caucasian: Implications to Treatment of Primary, Recurrent and Metastatic Disease	12:35 PM
11	Guy Missotten	Survival Analysis in Conjunctival Melanoma: A Dutch Study	12:45 PM
12	Ian Rennie	Session Summary	12:55 PM

KEY NOTE ADDRESS CURRENT MANAGEMENT OF OCULAR SURFACE TUMORS

Jacob Pe'er

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LIMBAL DERMOID: PRESENTATION AND MANAGEMENT

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PURPOSE: To report the age at presentation, other ocular or systemic associations, visual acuity, prognosis and outcomes after different modalities of management in limbal dermoids. **METHODS:** Retrospective chart review of all limbal dermoid patients presented to a tertiary eye care center in Southern India during the last 15 years. **RESULTS:** Eighty-eight patients (90 eyes) presented with limbal dermoid. One-third had Goldenhar's syndrome, eight had other ocular malformations and six had oral or cardiac anomalies. Equal number of males and females presented. Age ranged from one day to forty-five years. Two-thirds of patients were lost to follow-up with or without any treatment being advised. Rest one-third underwent different modalities of management as excision with or without amniotic membrane graft and or lamellar keratoplasty. Cosmesis was better with lamellar keratoplasty. Refractive error or BCVA were unchanged in all. Sixty percent of treated patients below seven years of age had amblyopia. **CONCLUSION:** Majority had poor visual outcome due to suboptimal care. Attending ophthalmologists need to be more oriented for early referral or management. Cosmetic outcome was satisfactory when treated.

APPLICATION OF IMPRESSION CYTOLOGY IN THE DIAGNOSIS OF OCULAR SURFACE SQUAMOUS NEOPLASIA EMPLOYING THE BIOPORE MEMBRANE

M Sailaja, Malleshwari, Madhusudan Reddy

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PURPOSE: To evaluate the accuracy of Impression Cytology (IC) employing a Biopore filter paper in the diagnosis of Ocular Surface Squamous Neoplasia (OSSN). **METHODS:** In all clinically suspected cases of OSSN undergoing an excisional biopsy, pre-operative IC was performed. A cytology-histology correlation was attempted. **RESULTS:** Twenty cases of OSSN were diagnosed clinically over last 2 years, from 12 males and 8 female patients with a median age of 46 (range 31- 83) years. Adequate material was obtained on cytologic preparation in all cases. Histologic confirmation of OSSN was made in 19 of 20 (95%); cytologic in 14 of 20 (70%). Cytology-histology discrepancy was noted in 6 cases- 5 were false negative; three showed anucleated keratinized cells with few metaplastic cells while 2 showed only keratin flakes on cytologic preparation. A case of primary acquired melanosis was misdiagnosed as OSSN on cytology. **CONCLUSION:** Conjunctival Impression Cytology, being an outpatient procedure, can be a useful diagnostic tool in management of OSSN. Larger studies with cytology-histology correlation by an experienced pathologist may further enhance the sensitivity and specificity of this test.

THE TREND OF OCULAR SURFACE SQUAMOUS NEOPLASIAS IN ZIMBABWE DURING THE LAST DECADE OF THE TWENTYTH CENTURY

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PURPOSE: To determine the trend in the prevalence and risk factors of ocular surface squamous neoplasias (OSSN) in Zimbabwe during the last decade of the 20th century. **METHODS:** The study was partly retrospective record review of patients who had been registered with the Zimbabwe National Cancer Registry and patients who had conjunctival biopsies done between January 1996 and August 2000. The prospective part of the study involved identification of other risk factors for development of OSSN in Zimbabwe. **RESULTS:** The age-adjusted annual incidence rates for squamous cell carcinoma of the conjunctiva had a greater than ten-fold increase from 0.17 to 1.82 per 100 000 people between 1990 and 1999. The crude annual incidence rates for all registered ocular tumors grouped together showed a positive upward linear trend ($X^2 = 362.78$, $df = 9$ and $p < 0.001$), so did the crude annual incidence rates for all squamous cell carcinomas of the eye ($X^2 = 425.61$, $df = 9$ and $p < 0.001$). Ninety seven percent of patients with squamous cell carcinoma of the conjunctiva were HIV positive using double ELISA test. **CONCLUSION:** OSSN is an AIDS defining neoplasm in Zimbabwe and has very high morbidity and mortality rates because of lack effective of treatment.

CLINICAL COURSE AND OUTCOME IN OCULAR SURFACE SQUAMOUS NEOPLASIA

Roshmi Gupta, Santosh Honavar, Uma Sridhar, Milind Naik,
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PURPOSE: To describe clinical features in ocular surface squamous neoplasia (OSSN) and assess risk factors for recurrence after treatment. **METHODS:** Retrospective case series of biopsy proven OSSN managed between May 1995 and August 2003. **RESULTS:** Average follow-up was 9.29(range 0-72.25) months after treatment in 144 eyes (134 patients). Male patients were 100 (74.6%); average age 47 ± 17.9 years (range 4-85). Twenty-two patients had bilateral disease. Histopathological diagnosis was dysplasia in 19 lesions (13%), carcinoma-in-situ in 64(44%), and invasive OSSN in 54(37.5%). The commonest location was bulbar conjunctiva in 92(63.8%), and cornea in 19(13.1%). Associated systemic conditions included xeroderma pigmentosa (XP) in 13 patients, HIV seropositivity in 7 patients, post-renal transplant immunosuppression in 2 patients. Primary treatment by excision in 27 eyes, excision with edge-cryotherapy in 91,orbital exenteration in 11, and topical mitomycin C in 3, was followed by recurrences in 18 eyes (12.5%, CI 7.1-17.9%), with second recurrence in 8(44.4%, CI 21.5-67.3%). Recurrences were more likely in eyes without excision edge-cryotherapy ($p = 0.048$), and XP patients ($p = 0.016$) on univariate analysis, and surface >24 sq. mm on multivariate analysis ($p = 0.039$). **CONCLUSION:** Greater tumor size, failure to perform excision-edge cryotherapy, and associated systemic cancer predisposition influence OSSN recurrence. Meticulous excision with edge-cryotherapy may reduce the recurrence rate.

TREATMENT OF CONJUNCTIVAL AND CORNEAL INTRAEPITHELIAL NEOPLASIA WITH TOPICAL MITOMYCIN C

Joseph Frucht-Pery, Jacob Pe'er

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PURPOSE: To evaluate retrospectively the long-term response of conjunctival and corneal intraepithelial neoplasia (CCIN) to topical treatment with Mitomycin C drops. **METHODS:** Thirty-

nine patients, 25 males and 14 females (32 – 87 years), were treated with Mitomycin C (MMC) for intraepithelial neoplasia. Ten patients underwent surgical biopsy before MMC use. Patients received one to five two-week courses of MMC 0.02% or 0.04% four times daily. The follow-up period ranged from 12 to 120 months. **RESULTS:** Only two of the 39 patients failed to respond to MMC treatment. Of the 37 patients who responded positively, five remained with small areas of scarred irregularity and vascularization during the follow-up period, 20 had conjunctival hyperemia, and 25 had ocular irritation. In two cases, the treatment was stopped due to pain. The conjunctival hyperemia responded to topical steroids within 1 – 2 weeks. No long-term complications were found. **CONCLUSION:** Treatment of CCIN with topical MMC is safe and effective.

MITOMYCIN C AS AN ADJUNCT IN THE TREATMENT OF LOCALISED OCULAR SURFACE SQUAMOUS NEOPLASIA

James Muecke, Celia Chen, Damien Louis, Tom Dodd

Royal Adelaide Hospital, Adelaide, Australia

PURPOSE: To report the outcome of topical Mitomycin C used as adjunctive treatment following primary excision of ocular surface squamous neoplasia (OSSN). **METHODS:** Prospective, non-comparative interventional case series of 27 primary localized OSSN lesions from 26 patients treated in a single ocular oncology center over a four year period. **RESULTS:** 27 cases of OSSN received a treatment regime of surgical excision, followed by topical MMC. Mean follow-up of 27 ± 12 months (range 7-50, median 25 months) revealed zero recurrences. **CONCLUSION:** Mitomycin C treatment following surgical excision decreases the recurrence rate of primary ocular surface neoplasia and should be considered as adjunctive therapy in primary treatment.

TREATING CONJUNCTIVAL PRIMARY ACQUIRED MELANOSIS WITH ATYPIA BY TOPICAL MITOMYCIN C

Jacob Pe'er, Joseph Frucht-Pery

Hadassah University Hospital, Jerusalem, Israel

PURPOSE: To evaluate our results in treating patients with conjunctival primary acquired melanosis (PAM) with atypia by topical Mitomycin C (MMC). **METHODS:** Twelve patients with conjunctival PAM with atypia who were treated at Hadassah University Hospital by topical MMC between 1995 and 2003 are included in the study, and their files were evaluated retrospectively. **RESULTS:** The patients' ages ranged between 21 and 78 years (mean 54.4 years); six females and six males. In eight patients the treatment with MMC was primary, and in four due to a recurrence after previous treatment. In all patients, histological diagnosis was performed. All patients were treated by two to five two-week courses of 0.04% MMC drops, four times daily. Follow-up ranged between two months and nine years. All patients responded by complete or almost complete resolution of the pigmentation, without recurrences. Side effects included conjunctival hyperemia in all patients, eyelid swelling in two, punctate corneal staining in two, severe keratopathy in one patient, and corneal erosion in one patient. All complications were resolved after the end of the treatment. **CONCLUSION:** Topical treatment of conjunctival PAM with atypia by MMC drops is a good alternative to surgical excision, especially when the PAM is diffuse.

EPIPHORA AS A SIDE EFFECT OF TOPICAL MITOMYCIN C

Eva Dafgård Kopp, Stefan Seregård

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PURPOSE: To report punctal-canalicular stenosis after topical mitomycin C (MMC) given to patients with conjunctival melanoma after surgical excision with incomplete margins and PAM with atypia. **METHODS:** The records of 11 patients treated with 1 to 6 cycles of 0.04% MMC, 4 times daily for 2 weeks during the period 2000 to 2003 were reviewed. When patients complained of tearing, examination of the puncta and canaliculi including probing and lacrimal irrigation was performed. **RESULTS:** 8 of 11 patients complained of epiphora after topical MMC. Three patients had normal puncta and canaliculi, patent to irrigation and the epiphora ceased spontaneously. Punctum stenosis was seen in three patients. In one patient the tearing ceased after probing and two patients healed after silicone intubation. One patient had a stenosis in the common canaliculus and was cured after silicone intubation. The worst case was one patient with a complete occlusion in the lower canaliculus and was offered a DCR with a Jones tube. **CONCLUSION:** Obstruction of the punctum and canaliculi appears to be a frequent side effect of topical 0.04% mitomycin C.

CONJUNCTIVAL MELANOMA IN NONHISPANIC CAUCASIANS: IMPLICATIONS TO TREATMENT OF PRIMARY, RECURRENT AND METASTATIC DISEASE

Seppo Tuomaala, Tero Kivela

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PURPOSE: to summarize data from three Finnish population-based studies on conjunctival melanoma (cm) to better understand its behavior and to improve treatment. **METHODS:** data from 85 patients diagnosed during from 1967 to 2000 were collected from cancer registry and patient charts and analyzed using advanced survival statistics. **RESULTS:** the crude incidence of cm was 0.51 per million. The age-adjusted incidence doubled from 0.4 to 0.8 per million. The melanoma-specific 5- and 10-year mortalities were 20% (95% C.I., 12-32) and 38% (95% chi, 26-53), respectively. Nonlimbal location of the primary (hazard ratio, 4.1, $p=0.023$), thickness (hr 1.2 for each millimeter increase, $p=0.063$) and recurrences (hr 1.39 for each recurrence, $p=0.014$) decreased survival. In 9 (45%) of 20 patients with established metastatic pattern the initial metastasis was regional lymphatic. The 10-year cumulative incidences of regional and systemic metastases were 11% and 18%. Regional metastasis was more frequent if the primary was >2 mm thick. Median survival after initial regional and systemic metastasis was 30 and 8 months ($p=0.012$). **Conclusion:** the incidence of conjunctival melanoma increases analogous to cutaneous melanoma. It is important to treat primary tumors meticulously. Patients with high-risk characteristics for lymphatic metastasis might benefit from sentinel lymph node biopsy.

SURVIVAL ANALYSIS IN CONJUNCTIVAL MELANOMA: A DUTCH STUDY

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PURPOSE: To review the conjunctival melanoma cases of a nation-wide search in the Netherlands between 1970 and 2003. **METHODS:** Retrospective study of clinical and pathological characteristics of patients with conjunctival melanoma. All diagnosis of melanoma was histopathologically confirmed. **RESULTS:** A total of 194 cases (87 males/ 107 females) were reviewed; the mean age at diagnosis of the patients was 57.4 (range 11-91) years. Conjunctival melanoma originated from nevus (9 cases), primary acquired melanosis PAM (113 cases), or de novo (72 cases). Primary therapy after histopathological diagnosis was excision (128 cases),

excision in combination with cryotherapy (12 cases), excision and irradiation (Iridium + Strontium, 18 cases), irradiation (Strontium, 11 cases), chemotherapy (Mitomycin C) in combination with excision (10 cases) or exenteration (15 cases). A total of 110 cases had one to eight recurrences. The mean follow-up period was 9.3 years, in which in total 57 patients developed metastasis. Mean survival period after metastasizing was 1.5 years. **CONCLUSION:** Conjunctival melanoma is an uncommon tumor in the ocular region, which is highly recurrent and has major dissemination capability. Prediction of survival depends mainly on tumor localization. We recommend early therapy of precursor lesion (dysplastic nevus or primary acquired melanosis with atypia) good follow-up.

SESSION SUMMARY

Ian Rennie

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