

## AB084. Correlation between histopathology and optical coherence tomography in periocular tumors

Denise Miyamoto<sup>1</sup>, Sabrina Bergeron<sup>1</sup>, Bryan Arthurs<sup>2</sup>, Debra-Meghan Sanft<sup>2</sup>, Christina Mastromonaco<sup>1</sup>, Andre Romano<sup>2</sup>, Miguel N. Burnier<sup>1,2</sup>

<sup>1</sup>MUHC-McGill Ocular Pathology Laboratory, McGill University, Montreal, QC, Canada; <sup>2</sup>Department of Ophthalmology, McGill University, Montreal, QC, Canada

**Background:** Basal cell carcinoma (BCC) accounts for 90% of the eyelid malignancies followed by sebaceous cell carcinoma (SC) and squamous cell carcinoma (SCC). Even though biopsy for histopathological (HP) evaluation remains the gold standard for confirming the diagnosis of eyelid tumors and the status of surgical margins, noninvasive techniques such as dermoscopy and optical coherence tomography (OCT) may increase diagnostic sensitivity and contribute to more accurate delineation of surgical margins. The purpose of this prospective study was to correlate the HP and OCT findings of eyelid malignancies.

**Methods:** After ethics committee approval (BCC/2017-2608), patients with suspected eyelid carcinomas had photographs taken, tumor characteristics assessed clinically and using dermoscopy and OCT, which were subsequently compared with HP evaluation. We obtained OCT images of periorbital tumors with an anterior segment lens adjusted in an Optovue Avanti. The histopathology was evaluated using a digital pathology system. Patients under 18 years old were excluded from this study.

**Results:** Three female and three male patients (age 69–88 years) with lesions located in the lower periorbital area (n=5) and upper eyelid (n=1) were included in this study. Two participants previously had skin cancer: 1 female patient had a lentigo maligna and a BCC, and 1 male patient had multiple BCC and actinic keratosis due to immunosuppression related to a liver transplant. Clinical and dermoscopic diagnosis were accurate in four cases: 3 BCC and 1 SCC. One clinically suspicious BCC was diagnosed as SC and one patient had a previous confirmed diagnosis of SC. All OCT images showed disruption of the dermoepidermal junction and hyporeflective areas in the dermis, which were darker and well-delineated in the three confirmed BCCs. OCT also clearly demarcated the transition between tumor and normal skin in all cases.

**Conclusions:** OCT is a fast and non-invasive exam to acquire high-resolution images of intraocular and ocular surface structures. Preliminary data from our study indicates that real-time OCT images correlate with HP findings and may also help delineate tumor margins. The inclusion of additional participants will provide further evidence of the benefits of using OCT pre-operatively to safely minimize surgical margins during eyelid tumor excision.

**Keywords:** Periocular tumors; optical coherence tomography (OCT); dermoscopy; histopathology

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