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Service (sector) Tumor and Pathology N° CEP

### **Correlation between Impression Cytology and Histopathology in the Diagnosis of Tumors of Surface Epithelium or Melanocytic Origin**

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**Purpose:** To determine if cytological features obtained by impression cytology (IC) correlate to the final histological diagnosis of ocular surface tumors.

**Methods:** 48 corneal-conjunctival tumors were examined by IC using acetate cellulose strips and a combined staining with PAS, HE and Papanicolaou. After excision, histopathology study was performed in all specimens with HE staining and compared with previous IC results. IC specimens were analyzed by an observer masked to final histological diagnosis. Histological evaluation was performed by another observer masked to IC results and lesions were classified into 2 groups: Group I: tumors of surface epithelium and Group II: tumors of melanocytic origin of the conjunctiva. Cellular atypia was based on nuclear enlargement, irregular nuclear contour, increased nuclear/cytoplasmic ratio and pleomorphism. **Results:** 48 tumors were included, 39 patients on Group I and 7 on Group II. The mean age was 51,3yo in group I and 40yo in group II. Only two patients of group I had two tumors in the same eye but in different areas. Final diagnosis on histopathological study was pterygium (n=1), intraepithelial neoplasia (n=20) and invasive squamous cell carcinoma (n=20) on group I and secondary melanosis (n=1), conjunctival nevus (n=5) and amelanotic melanoma (n=1) on group II. The correlation between IC and histological examination was positive in 95% on group I and in 100% on group II. There were no false positives for malignancy on cytology. **Conclusion:** IC accurately predicted the final histological diagnosis in all tumors evaluated of melanocytic origin. IC assessment of atypia identified malignant or premalignant tumors of surface epithelium. These findings suggest that IC can be used in the initial assessment and follow up of patients with suspected ocular surface tumors.