CUTANEOUS SHRINKAGE AFTER SURGICAL RESECTION OF FACIAL SKIN TUMORS

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Introduction: Histological reports of skin tumor excisions frequently describe a lower margin than the clinical and surgical excision margin. These discrepancies need to be assessed and analyzed to avoid useless and damaging repeat surgery.

Objective: The main objective of our study was to evaluate the degree of shrinkage occurring in facial cutaneous specimens after surgical excision and after specimen formalin fixation. The secondary endpoints were to specifically determine the shrinkage of the tumor, to assess the role of potentially influential factors such as gender, age, body mass index, tobacco and alcohol use, phototype, sun-induced skin ageing and type of tumor, and to evaluate a potential difference in shrinkage on the anatomical units of the face.

Materials and Methods: We prospectively included all patients admitted for surgical resection of facial skin tumors from 06/01/2017 to 10/31/2017 in the University department of oral and maxillofacial surgery of Marseille, France. We compared the measurements of the surgical specimen and the tumor before the excision (in vivo), after the excision (ex vivo) and after 24h formalin fixation (in vitro).

Results: Our study on 100 surgical specimens showed a mean shrinkage from in vivo to in vitro of 12.8% in length and 11.2% in width for the surgical specimens, and of 10.3% and 9.7%, respectively for the tumor (p<0.001). Shrinkage of the surgical specimen was lower for basal cell carcinoma than squamous cell carcinoma in the length (9.7% versus 13.1%, p<0.001) as well as in the width (7.2% versus 17%, p= 0.006). No relevant differences were found as a function of age, gender, body mass index, tobacco and alcohol use, phototype and anatomical units of the face.

Conclusion: Clinicians, surgeons and dermatopathologists should be aware of this expected range of shrinkage to appropriately interpret the histological results and the margins.