Repair options in defects of periocular area

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Lately, the incidence of cutaneous malignancies has grown the recent years, due to the fact that, along with the increase of life expectancy, the exposure of general population to UV radiation has also increased, becoming an important public health problem. The periocular region is one of the most exposed area to the UV radiation, being less protected; thus, palpebral skin tumours represent approximately 5 to 10 \% of all skin cancers. Among these, the most frequent palpebral skin tumours are basocellular and spinocellular carcinoma, representing 90\% and respectively 5\% of those; other types of eyelid malignancies, as sebaceous carcinoma or malignant melanoma are far less represented comparing to basocellular and spinocellular carcinoma.

The non-surgical treatment usually consists of: radiotherapy, cryotherapy, Imiquimod therapy, chemotherapy with 5-Fluorouracil or Vismodegib - which is a treatment recently approved by FDA (Federal Drug Administration) for the treatment of advanced basocellular carcinoma.

The gold-standard treatment of these tumours still remains the surgical treatment – surgical excision followed by histopathological exam of the tumour and the margins of the remaining tissue for the confirmation of the complete excision and then followed by the reconstruction of the eyelid.

The eyelid reconstruction is taken into consideration only after the histopathological confirmation of the complete excision of the tumour. Eyelids play an essential role in maintaining the integrity of the ocular surface, protecting the ocular globe, assuring the uniform diffusion of the lacrimal film on its surface; eyelids are also important for the facial expression, so that any difference in size, any asymmetry of the palpebral apertures may significantly modify the esthetic aspect of the face. Eyelids have a thin skin layer with high regenerative potential, so that periocular wounds usually allow quick esthetic and functional healing, depending of the size and the site of the defect.

Methods of reconstruction in the periocular area should always attend to the anatomical elements of the region, the dimension of the remaining defect and not least, the functionality of the area; eyelid structure consists of: the anterior lamella (which includes the skin and the orbicular muscle), and the posterior lamella (the tarsus and the conjunctiva). The lateral and medial canthal ligament are fibrous structures, giving stability and support for the eyelids.

We report the experience of the Ophthalmology Clinic of the University Emergency Hospital of Bucharest in palpebral reconstruction after periocular tumours excision. Depending of the size of the defect, reconstruction can be made by direct suture, for small defects (<1/3 from the eyelid length), direct suture with additional lateral tissue, for medium defects, reconstruction for each lamella of a time
(anterior and posterior) using adequate grafts and flaps for defects > ½ of eyelid length. As an alternative of conventional eyelid reconstructive surgery, the wound healing by secondary intention remains controversial, being based only on regenerative properties of periocular tissues.

The final purpose however, is always the re-establishment of the eyelid structure and function, as close to normal as possible and concomitantly, a pleasant esthetic aspect.