

New Treatment Directions of Non-melanoma Skin Cancers: Intraoperative Use of Reflectance Confocal Microscopy †

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Abstract: Surgical excision represents the gold standard for treatment in non-melanoma skin cancers (NMSCs). The most important aspect of skin surgery is total excision of the neoplastic lesion with minimum impact on the post-operative aspect of the skin. Some histology subtypes of NMSCs can be aggressive and being extended beyond their clinical lateral margins. This type of tumor can lead to incomplete excisions and further to postsurgical recurrence. Tumoral margins are difficult to assess with the naked eye (clinical examination) and even with dermoscopy, mostly for non-pigmented lesions. An important success of this technique is the clearance of the margins to avoid the need for reintervention. The clearance can be confirmed using pathology, either during standard surgical excision or Mohs micrographic surgery (MMS), which can be time-consuming. *In vivo* reflectance confocal microscopy (RCM) offers an alternative approach for intraoperative detection of the margins of lesions. This technique allows us a fast and efficient way of margin control. Using *in vivo* RCM can permit the complete surgical excision of the tumor while reducing the unnecessary excision of healthy cutaneous tissue, thus making it easier to close the surgical defect. Bleeding due to superficial incisions can limit the evaluation using RCM and increase the risk of local infection, but it can be controlled by using hemostatic agents and local antiseptic solutions. There are needed supplementary studies to test the efficiency of the *in vivo* RCM procedure in intraoperative settings in both classical surgical excision and MMS. It is also important to attest to the recurrence rate after using this combined technique.

Keywords: confocal microscopy; surgical margins; NMSCs.

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Conflicts of Interest

The authors declare no conflict of interest.