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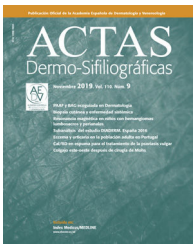

VIDEOS OF SURGICAL PROCEDURES IN DERMATOLOGY

# Staged Excision With Micrographic Monitoring of Margins in Lentigo Maligna☆

## Cirugía por etapas con control micrográfico de los márgenes del lentigo maligno

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Lentigo maligna is a type of melanoma that arises in chronically sun-damaged skin. It characteristically exhibits subclinical spread that may be found more than 1 cm beyond apparently normal surrounding skin. Lentigo maligna should therefore be excised with surgical margins of at least 0.9 cm (which achieve clear margins in >90% of cases) or, preferably, using surgical techniques that allow histological evaluation of all margins. These techniques provide the best guarantee of tumor-free margins and avoid the unnecessary removal of healthy skin. They are particularly indicated for lentigo maligna on the face.[1,2]

A number of surgical techniques exist that allow for complete examination of surgical margins. They are all modified versions of Mohs micrographic surgery (MMS) and were designed to achieve the ultimate goals of lentigo maligna surgery: tumor-free lateral margins and correct processing of the surgical specimen to check for an invasive component (present in up to 20% of cases).[3] Most of the techniques described include histological examination of formaldehyde-fixed paraffin-embedded tissue, as it easier to identify melanocytes in routinely processed tissue than in the frozen sections typically used in conventional MMS. Use of this tissue also allows for immunohistochemical staining with Melan-A/MART-1 (melanoma antigen recognized by T cells) and MITF (microphthalmia transcription factor). MITF is preferable as it is a specific nuclear marker, whereas Melan-A/MART-1 also stains keratinocytes.[4] It is encouraging to observe that rapid protocols have been designed for evaluating frozen sections using both stains.[5]

At our hospital, we use staged excision with complete examination of lateral margins and the tumor after routine processing and staining with hematoxylin-eosin and Melan-A. The main disadvantage of this procedure is that specimen processing takes between 2 and 4 days. During this time, the surgical wound remains open and the patient has to return to the hospital at least once for additional surgery or reconstruction.

In this video we show how we treated a lentigo maligna involving the left lower eyelid using a surgical technique with micrographic control of margins. In contrast to MMS (fresh-tissue technique or slow Mohs), the skin is cut at an angle of 90º rather than 45°. This allows us to obtain adequate histological images to correctly identify the involvement of adnexal structures and evaluate 100% of the lateral margins. Perpendicular cuts in the central part of the specimen are used to check for the presence of an invasive component and, where necessary, to measure Breslow depth and assess other histological parameters that are essential

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for melanoma staging and prognosis. Complete examination of the deep margin is not performed, as invasion beyond the subcutaneous tissue (which is excised) is very rare in lentigo maligna and in any case would be clinically identifiable by the presence of a tumor nodule.

The size of the initial margin may vary according to location, as this may determine the goal of surgery: to achieve tumor-free margins as soon as possible or to preserve healthy tissue. We advise starting with a margin of at least 0.9 cm in the first case and one of 0.5 cm (or even smaller depending on the anatomic structures involved) in the second. In the case shown in this video, we used a margin of 0.5 cm and an even smaller one in the area adjacent to the free edge of the eyelid.

It is important to use photographs and sutures to mark relevant areas, correctly identify potentially affected margins, and anatomically locate any area that may require a new stage.

In our patient, the surgical defect was temporarily closed after the first stage of surgery using a Biobrane dressing (Smith & Nephew). This is a synthetic dressing composed of a nylon and collagen mesh that interacts with the wound bed, favoring granulation, and a thin silicone membrane that reduces the risk of infection. Definitive wound closure should be as simple as possible (direct closure, healing by secondary intention, or skin grafting) to allow early detection of recurrence. In our case, however, we opted for a cheek rotation and advancement flap to prevent ectropion.

## Conflicts of interest

The authors declare that they have no conflicts of interest.

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