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Slow micrographic Mohs surgery for lentigo maligna: A retrospective study of 36 cases

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Background: Lentigo maligna (LM) is a type of in situ melanoma that is usually located in actinic skin damage areas in elderly patients. Surgical excision with 0.5 cm margins has been traditionally used, but due to its common subclinical extension, this margin might be insufficient. Slow micrographic Mohs surgery (SMMS) is being progressively implanted because of its low recurrence rate.

Objective: To study the authorś experience with this surgical therapy.

Methods: We reviewed the records of 36 patients with LM treated with SMMS at the authors' institution from 2000 to 2015. The main outcome measure was recurrence. Margins and stages required for clearance, and characteristics of lesions were examined.

Results: Thirty LM were primary tumors (83.3%) and six (16.7%) were previously treated with conventional excision. After first stage of SMMS, with an average margin of 0.5 cm, only 63.9% of patients had histologic clearance. The overall recurrence rates at 5 years were 11.1%. However, in the subgroup analysis, we observed a 6.7% recurrence rate at 5 years in the group of patients with primary LM treated with SMMS as first treatment, and a 33% recurrence rate at 5 years in the group that were previously treated with conventional excision. The average time until recurrence was 23.5 months.

Conclusions: On the basis of this evidence, we suggest that SMMS is an effective treatment option in the LM management, offering a high cure rate while maximizing preserving normal tissue, especially in cosmetically and functionally sensitive areas.

Commercial disclosure: None identified.

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Stretching induces inflammation and contributes to striae gravidarum formation: In vitro models

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Background: Our clinical studies on pregnant woman skin characterization suggested that the stretched skin during pregnancy may share some inflammatory characteristics with psoriatic lesions. Indeed, there may be a direct relationship between stretch and inflammation and we hypothesize that this could contribute to the development of striae gravidarum (SG). Here, we developed in vitro models of stretched skin in order to better understand the influence of mechanical stress in stretch marks formation.

Methods: Skin cells or skin explants were submitted to mechanical tension using specific devices. Inflammatory and dermal matrix markers expression level was evaluated by qPCR, ELISA assay, or immunohistology.

Results: Increased expression of inflammatory markers (TNFα, ILα, IL1β, IL6, IL8) was observed in fibroblasts and keratinocytes in response to mechanical tension. The ex vivo model of stretched skin explants showed an increase of IL6, IL8, and MMP1, confirming the link between mechanical tension and inflammation. Alteration and disorganization of collagen and elastic fibers were also observed, reproducing the histologic features of SG. An innovative formula designed to specifically prevent the formation of SG was topically applied on the stretched-skin model. It induced an anti-inflammatory effect and preservation of dermal matrix organization; suggesting an efficient preventive effect on SG formation. This effect was confirmed clinically.

Conclusions: Using in vitro skin models we confirmed the link between mechanical tension and inflammation, which may explain SG development during pregnancy. These models were used to demonstrate the efficacy of a SG prevention cream.

Commercial disclosure: None identified.

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Factors influencing rates of complete excision of basal cell carcinomas and melanomas

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Skin cancer, composed of both melanoma and nonmelanoma skin cancer (NMSC), can be treated with myriad modalities, including surgical excision. The primary end point for surgical excision of melanoma-in-situs (MIS) and NMSC is tumor clearance rate, determined postoperatively by the presence of tumor-free resection margins in the excised sample. This study explored which factors impacted the success of a MIS or NMSC excision. We conducted a retrospective study of 5800 standard excisions of MIS and basal cell carcinomas (BCC) performed by dermatologists, general surgeons, otolaryngologists, and plastic surgeons from 13 different Kaiser Permanente centers. The primary outcome measure was presence of histologic evidence of tumor in the surgical margins of excision specimens (incomplete excision). Statistical analysis included both univariable and multivariable models. An incomplete excision was found in 23% of all specimens. There was no significant difference between the proportion of incomplete excisions for a BCC versus a MIS. Per specialty, the proportion of incomplete excisions was 24% for dermatology, 26% for plastic surgery, 28% for otolaryngology, and 12% for general surgery. Variables associated with a higher probability of incomplete excision included increasing age, head and neck location, smaller tumor size, and medical center location (all $P < .05$). Variables with no statistically significant bearing on incomplete excision rate included sex, ethnicity, provider degree (PA or NP vs physician), and clinical experience. Thus, given the enormous prevalence of BCC and MIS tumors worldwide, the optimal treatment for a particular skin cancer relies on a number of patient-dependent and patient-independent factors.

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Frontal fibrosing alopecia preceding the development of vitiligo: A case report

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Frontal fibrosing alopecia (FFA) is a chronic, lymphocytic, scarring alopecia involving the frontal scalp and eyebrows. The pathophysiology of FFA remains unclear; yet, there is likely a shared mechanism of CD8+ cytotoxic lymphocyte infiltration between this disease process and pigmentary disorders such as vitiligo. There have been 10 reported cases of FFA or LPP coexisting with vitiligo. However, in all cases, vitiligo preceded the development of scarring alopecia. We present a case of pre-existing FFA in the setting of vitiligo in a 43-year-old woman with a history of thyroid disease, rosacea, and known p-phenylenediamine (PPD) exposure. Given their shared CD8+ immune response, FFA and vitiligo may develop simultaneously. Interestingly, in our case, melanocyte destruction was delayed by two years after FFA onset. We postulate that during the FFA-only period, an indolent inflammatory infiltrate was present. Either with evolution of time, or an external trigger, such as exposure to a known chemical sensitizer (eg, PPD), the inflammatory process intensified, leading to accelerated destruction of follicular stem cells and decreased melanocyte survival. This case highlights an interesting deviation from previous reports of LPP/FFA-vitiligo coexistence, and challenges previously proposed etiologies. We have highlighted a mechanism by which vitiligo may develop from existing scarring alopecia and its pathogenesis may be influenced by external factors (contact allergens) and/or internal factors (pre-existing autoimmune disease).

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