

resembling melanocytes, with pagetoid spread to the most superficial layer of the skin (Figure 2B).

The suspicion of mammary Paget disease (MPD) as a local breast cancer recurrence in a previously nipple-sparing mastectomized patient was confidently confirmed. At this point, patient accepted undergoing skin biopsy, which confirmed MPD. A further magnetic resonance imaging excluded other sites of disease progression. Surgical excision of the areola-nipple complex was performed with diagnosis of a second primary focally infiltrating ductal carcinoma mildly differentiated (G2) associated to a comedo-type ductal carcinoma in situ, with invasion of three lactiferous ducts and carcinomatous intraepidermal pagetoid involvement. Adjuvant radiotherapy and systemic therapy with trastuzumab/letrozole have been planned.

MPD is clinically characterised by a demarcated, thickened, eczematous erythematous weeping or crusted lesion with irregular borders; nipple discharge and ulceration may sometimes occur, and there may be an associated palpable breast tumour. The differential clinical diagnoses include generalized inflammatory skin conditions such as eczema and psoriasis, as well as erosive adenomatosis, a condition that is specific to the nipple.

Recently, nipple-sparing mastectomy has become a surgical option for a select group of patients affected by breast cancer. This technique allows better esthetical and psychological satisfaction with comparable oncological outcomes. However, the preserved nipple areola complex gives rise to a possibility of Paget's disease local recurrence. On the other hand, MPD is a very rare clinical type of local recurrence after breast cancer treatment and requires a high index of suspicion.<sup>1</sup> Delays of diagnosis have been reported due to possible confusion with radio dystrophy or depigmentation, which can occur after breast conservation treatment or nipple-sparing mastectomy. For this reason, its early diagnosis is challenging. Diagnosis can be made with a skin biopsy, but it is usually proposed with great caution in mastectomized patients, because of emotive implication of a further surgical procedure and cancer recurrence. RCM has been used to obtain non-invasive optical virtual biopsy at quasi histological resolution for early diagnosis of melanocytic and non-melanocytic skin tumors.<sup>2</sup> Although dermatologists have been used RCM for diagnosing pigmented MPD among naïve patients,<sup>3,4</sup> RCM to confidently confirm clinical suspicion, overcoming patient's resistance to perform skin biopsy in a previously mastectomized patient have not been reported. RCM allows non-invasive, *in-vivo* characterization of most superficial structures of the skin. Although the incidence of Paget's disease local recurrence after nipple-sparing mastectomy remains unknown, RCM could be helpful to avoid unnecessary invasive procedures especially among patients fearing any kind of further surgical procedures.

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## Shiitake dermatosis in a Caucasian woman

Shiitake mushrooms (*Lentinula edodes*) are a worldwide-known type of mushroom, employed in the traditional Asiatic medicine for healthy effects, such as immune modulation, reduction of blood pressure and anti-inflammatory activity. However, this mushroom may provoke allergic reactions and a peculiar dermatosis, known as shiitake dermatitis.

A 54-year-old Caucasian woman developed acute lesions, 2 days after eating a raw shiitake mushroom for the first time. She complained severe pruritus and denied taking any medications. Physical examination revealed extensive flagellate, papular, dark-red lesions mainly on the abdomen (Figure 1A), back (Figure 1B), and lower legs. Furthermore, a purple, pruritic plaque was observed on the left leg (Figure 1C). Routine laboratory tests were normal and further investigations showed no evidence of an autoimmune dis-

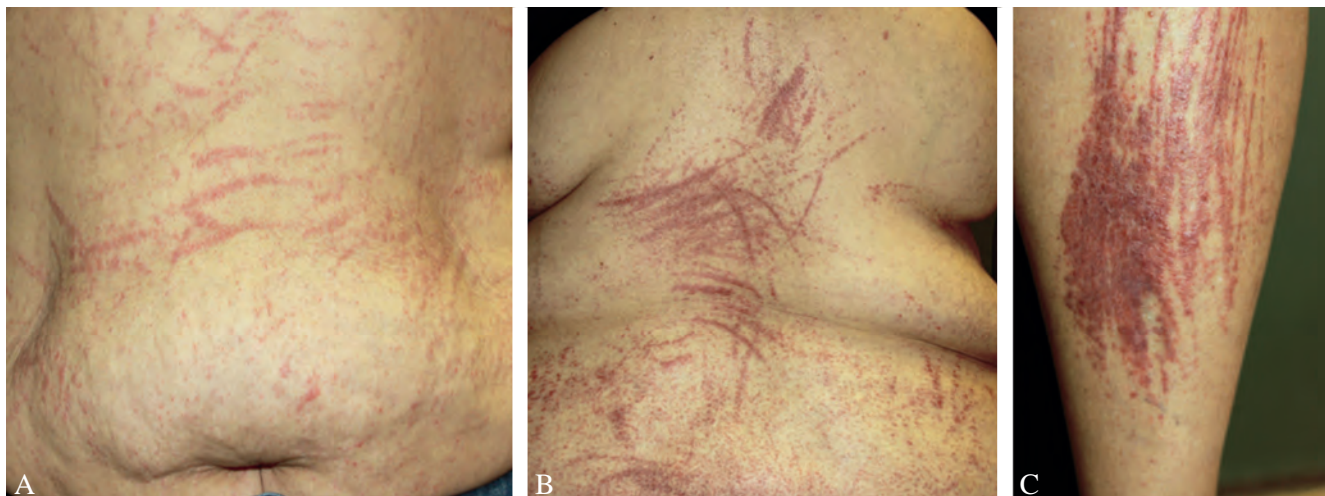


Figure 1.—A) Extensive flagellate, papular, dark-red lesions on the abdomen; B) flagellate lesions on the back; C) a purple, pruritic plaque on the left leg.

ease or a photodermatosis. A punch biopsy was performed, revealing a severe dermal edema, mild focal acute lymphocytic eczema reaction, with perivascular infiltrates of lymphocytes, neutrophils, and eosinophils. Because of the red plaque on the legs, a screening for bleeding defect was performed, revealing a von Willebrand disease type 1. A prick-to-prick test with shiitake mushroom extract was performed and specific IgE to shiitake mushroom was investigated, resulting both negative. According to the clinical history and the pathological findings, a diagnosis of shiitake dermatitis (SD) was made. The patient received oral prednisolone and antihistamines, with a complete resolution of the lesions. In addition, she was advised to avoid shiitake mushroom in future.

SD, also known as shiitake toxicoderma or flagellate mushroom dermatitis, was firstly described in 1977.<sup>1</sup> Approximately 100 patients with SD have been reported in the literature.<sup>2</sup> In most cases Japanese people were affected by SD, but recently a few cases were described in Europe, USA and Canada.<sup>1, 2</sup> SD usually develops 12 hours to 5 days after ingestion of raw or partially cooked Shiitake mushrooms in predisposed individuals. The distinctive characters of the eruption are erythematous, pruritic papules, papulo-vesicles, and mild-infiltrated plaques on the trunk and extremities, arranged in a flagellate pattern. It was previously postulated that the linear shape of the lesions resulted from Köbner phenomenon, but these lesions are not provoked by scratching.<sup>3</sup> Histology findings are nonspecific, revealing acute lymphocytic eczema reaction, perivascular lymphocytic infiltrate, eosinophils and dermal edema (Nakamura). Several differential diagnoses should be taken into account, including dermatomyositis, adult-onset Still's disease, and adverse drug eruptions (docetaxel and bleomycin).<sup>3</sup> Furthermore, it has been reported that HIV patients with hypereosinophilic syndrome were prone to show unusual cutaneous manifestations of linear flagellate papules and plaques.<sup>2</sup> Distinguishing clues to diagnose SD correctly include a history of raw mushroom exposure, absence of systemic disease, and rapid improvement of the lesion with therapy. In addition, SD does not usually result in hyperpigmentation, in contrast to bleomycin-induced dermatitis.<sup>4</sup>

The pathogenesis of SD is still unknown. The most commonly accepted hypothesis is a toxic reaction to the polysaccharide Lentinan, although different components of the mushroom were identified as probable triggers for SD.<sup>5</sup> Usually, it takes two weeks for a complete remission of SD. The symptoms could be treated with antihistaminic, topical corticosteroids and systemic steroids in severe cases.<sup>1</sup> The re-exposure could provoke the onset of dermatitis within 24 hours. Therefore, eating shiitake mushrooms should be avoided.<sup>1</sup>

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