

## Nodular scabies mimicking breast cancer skin metastasis

Sir,

A 60-year-old woman was referred to the dermatology department with an intensely pruritic eruption on the left side of her trunk of one month's duration, which was less severe on the rest of the body. Her medical history was significant for the metastatic left breast cancer which had been treated with radical mastectomy. She had received five 28-day treatment cycles (palbociclib 125 mg daily 21 days and exemestane 25 mg daily 28 days) during the previous five months. Physical examination revealed multiple erythematous firm papules and nodules arising on the area corresponding to her left mastectomy scar, and small papules scattered on the trunk [Figure 1]. No enlarged lymph nodes or other cutaneous lesions were present. She denied local tenderness, bleeding or any systemic symptoms. Laboratory parameters were normal except for moderate neutropenia (500–700 neutrophils/ $\mu$ l). With an initial clinical suspicion of breast cancer cutaneous metastasis, a punch biopsy was performed.

Histopathologic study revealed spongiosis, occasional subcorneal eosinophilic pustules and a moderate interstitial inflammatory infiltrate, predominantly of lymphohistiocytes with abundant eosinophils, in the superficial and middle dermis [Figure 2]. These findings were consistent with the possibility of scabies. The patient was re-examined and a dermatoscopic examination of the nodules was performed [Figure 3]. A diagnosis of nodular scabies was made and the patient was successfully treated with single overnight application of permethrin 5% cream plus oral ivermectin 200  $\mu$ g/kg two doses one week apart and topical application of clobetasol cream on the residual nodular lesions. Reinfection, attributed to incorrect disinfection of the breast orthosis, was observed on follow-up, six weeks later and was successfully retreated with no relapse.

Scabies is a common infestation by the ectoparasite *Sarcoptes scabiei* var. *hominis*. Nodular scabies can be observed in up to 7% of cases.<sup>1</sup> Typically, nodular lesions are distributed on flexural areas such as the groins and axillae, but can be found in other areas.<sup>1</sup> Nodular scabies is considered a delayed hypersensitivity reaction to *S. scabiei*;<sup>2</sup> in up to 90% of nodular lesions, mites or their fragments are present.<sup>3</sup> Pressure may play a role in mite infestation<sup>4</sup> and explain the location of nodular scabies, in the present patient.



**Figure 1a:** Multiple erythematous papules and nodules on the mastectomy area. Note the distribution along the external breast orthosis



**Figure 1b:** Resolution after proper treatment

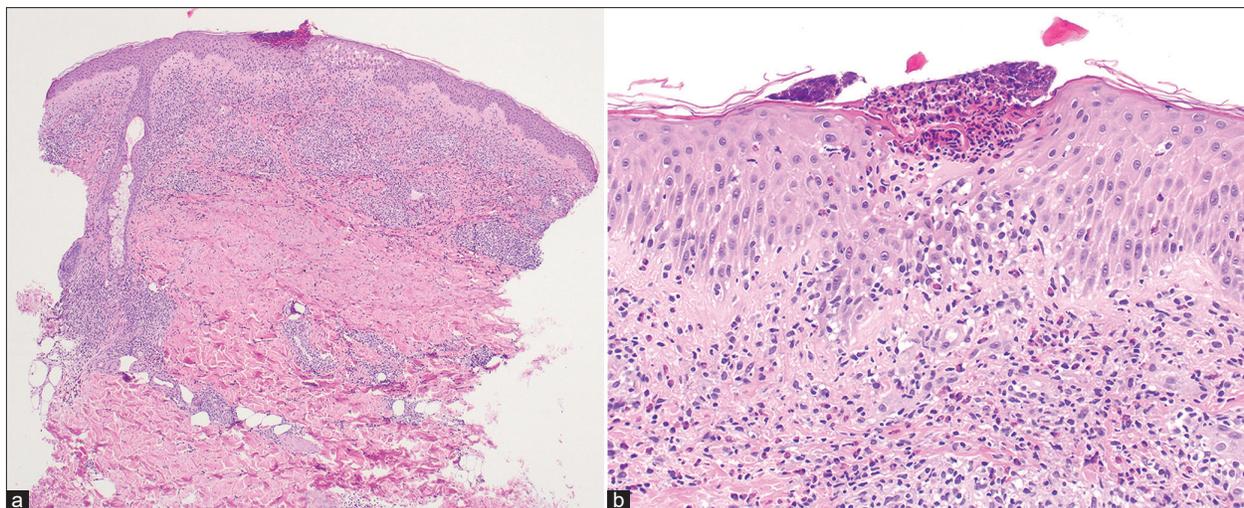
The diagnosis of nodular scabies may be challenging and must include urticaria pigmentosa, Langerhans cell histiocytosis, drug eruption, lymphomatoid papulosis or pityriasis lichenoides chronica. We were unable to find

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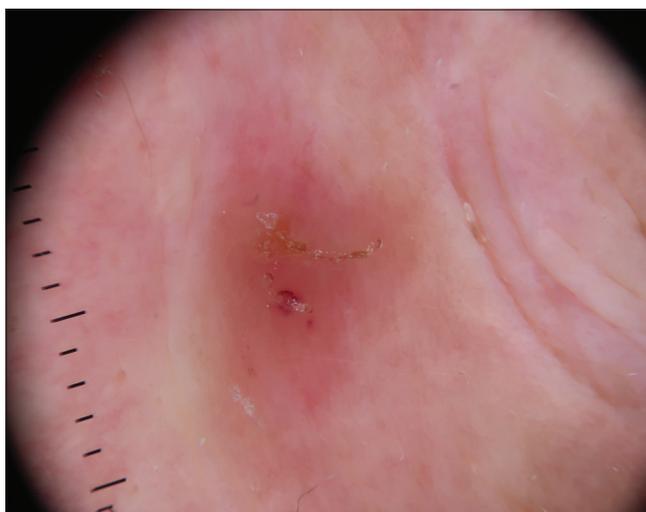
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**Figure 2:** Punch biopsy from breast lesions. 40x (a) and 200x (b) hematoxylin-eosin stain. Epidermis with spongiosis and a subcorneal pustule with plenty of eosinophils. A moderate interstitial chronic inflammatory infiltrate, predominantly lymphohistiocytic with abundant eosinophils, seen in the superficial and mid-dermis



**Figure 3:** Dermoscopy examination: Two burrows and a brown triangle at the right inferior and right end of the burrows (“delta wing jet with contrail” sign). DermLite® II Pro HR dermoscope, polarized light, 10x

any previous reports of nodular scabies as a mimicker of cutaneous metastases. The observation of the mite or any of its parts (scybala, ova or fragments) by dermoscopy, microscopic examination of skin scrapings or a skin biopsy yields a definitive diagnosis of scabies.<sup>5</sup>

Treatment of nodular scabies requires permethrin 5% cream or ivermectin 200 µg/kg in two doses 7-14 days apart and topical or intralesional corticosteroids.<sup>5</sup> Nodular scabies may be refractory to treatment; in those cases, high doses of ivermectin or combination treatment with permethrin and ivermectin may be required, and follow-up is advisable. Washing at 60°C or dry washing underwear, clothing and bedclothes in direct contact with the skin is required to kill mites and eggs and prevent reinfection.

In conclusion, we present a case of nodular scabies mimicking breast cancer metastasis where pressure and breast orthosis possibly played a key role in infection and relapse. A high index of clinical suspicion is required and appropriate disinfection of orthoses is of importance in managing such cases.

#### Declaration of patient consent

The patient's consent is not required as the patient's identity is not disclosed or compromised.

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#### Conflicts of interest

There are no conflicts of interest.

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