

## THE CLINICAL PICTURE

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# The Clinical Picture

## An erythematous plaque on the arm



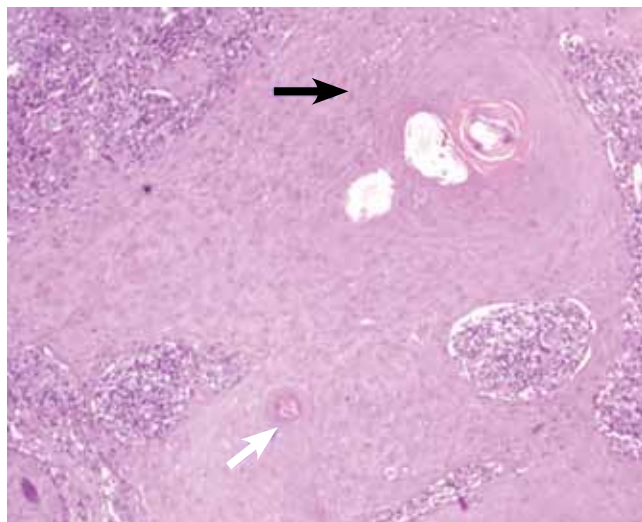
**FIGURE 1.** An erythematous plaque on the right arm, with an elevated edge, central depression, and hard consistency.

A HEALTHY 68-YEAR-OLD FARMER presents with an asymptomatic skin lesion on his right arm that appeared spontaneously without trauma or bite 5 months ago and has grown progressively since then.

On examination, he has an erythematous plaque that has an elevated edge, a central depression, and a hard consistency (FIGURE 1). The sensitivity of the lesion is preserved, and no thickened nerves are observed. Local and regional lymph nodes are not palpable. Basic biochemical and blood serologic tests reveal no significant abnormalities.

**Q:** Which is the most likely diagnosis?

- ☐ Squamous cell carcinoma
- ☐ Cutaneous lymphoma
- ☐ Cutaneous mycobacteriosis
- ☐ Sarcoidosis
- ☐ Lichen planus



**FIGURE 2.** Atypical keratinocytes extending from the epidermis to the dermis, with dyskeratosis, intercellular bridges (black arrow), and horn pearl formation (white arrow) (hematoxylin and eosin,  $\times 20$ ).

**A:** The patient has squamous cell carcinoma. Histopathologic examination of biopsy samples from the lesion showed atypical keratinocytes extending from the epidermis to the dermis, compatible with this diagnosis (FIGURE 2).

As for the other possibilities:

**Cutaneous lymphoma**, characterized by atypical proliferation of T or B lymphocytes in the skin, usually presents as a slow-growing indurated nodule or plaque.

**Cutaneous mycobacteriosis** is caused by infection with *Mycobacterium tuberculosis*, *M leprae*, or *M marinum*. Caseous granulomas are often found on histopathologic study, but special culture and polymerase chain reaction tests are necessary for the diagnosis. Clinically, the lesion is an indurated nodule or plaque that grows slowly, with decreased sensitivity in the case of leprosy, and with a sporotrichoid pattern in the case of *M marinum* infection.

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Our patient underwent a tuberculin skin test, which was negative, as were polymerase chain reaction testing and culture of the biopsy material for mycobacteria.

**Sarcoidosis** is a systemic disease of unknown cause characterized by noncaseous granulomas in the lungs, mediastinum, lymph nodes, or other sites.<sup>1</sup> Cutaneous involvement includes nonspecific clinical forms (eg, nodosum erythema) and other more specific forms (eg, maculopapular, subcutaneous, cicatricial, or lupus pernio variants). This patient has no granulomas on skin biopsy.

**Lichen planus** is a chronic inflammatory disease of unknown cause that affects the skin, genitalia, mucous membranes, or appendages. It appears as pruritic purple polygonal papules with Wickham striae, usually affecting the wrists and ankles.

## ■ A COMMON FORM OF SKIN CANCER

Squamous cell carcinoma and basal cell carcinoma account for 95% of cases of nonmelanomatous skin cancer, and the incidence of squamous cell carcinoma has been increasing.

Long-term exposure to ultraviolet radiation (ie, sunlight), often related to occupation, is the most common cause of squamous cell carcinoma. Other risk factors include thermal injury or burns, ionizing radiation, human papilloma virus infection, immunosuppressive therapy (eg, after organ transplantation<sup>2</sup>), exposure to chemical carcinogens, and diseases such as xeroderma pigmentosum or oculocutaneous albinism. Unlike basal cell carcinoma, which usually arises de novo, squamous cell carcinoma often arises from precursor lesions, such as actinic keratosis and Bowen disease.

Squamous cell carcinoma commonly manifests as shallow ulcers, often with a keratinous crust and an elevated, indurated border, but also as plaques or nodules, as in this patient. Incipient lesions present as erythematous, firm, keratotic pap-

ules, but the lesions on sun-exposed areas such as the head or neck can be pigmented.

The surrounding skin usually shows changes of actinic damage, usually with ulceration, scaling, crusting, or verrucous appearance. When the lesion presents as an erythematous plaque, as in this patient, mycobacterial infection and cutaneous lymphoma should be ruled out. Histologic studies and culture for mycobacteria are necessary for an acute diagnosis. Other conditions in the differential diagnosis are keratoacanthoma, cutaneous metastasis, and sarcoidosis.

The only way to confirm the diagnosis of squamous cell carcinoma is to obtain a specimen by biopsy or surgical excision. Histologic features include atypical keratinocytes extending from the epidermis to the dermis, with dyskeratosis, intercellular bridges, variable central keratinization, and "horn pearls," depending on how well or how poorly differentiated the tumor.<sup>3</sup> Most squamous cell carcinomas arise in solar keratoses, usually at the periphery of the tumor.

Most squamous cell carcinomas are only locally aggressive. Tumors greater than 5 mm in thickness have a 20% risk of metastasis.

## ■ TREATMENT OPTIONS

Surgical excision is the most common treatment. Other options are cryotherapy, topical chemotherapy, curettage and electrodesiccation, radiotherapy, and Mohs micrographic surgery. Photodynamic therapy or imiquimod (Aldara) are used only for noninvasive forms.

The possibility of metastasis should be investigated in cases of extensive squamous cell carcinoma, when mucous membranes are affected, and when squamous cell lesions are poorly differentiated.

Our patient's tumor was removed, with adequate safety margins in surface and depth, and with dermo-epidermal graft closure. The lesion has not recurred at 9 months of follow-up. ■

When lesions present as an erythematous plaque, mycobacterial infection and lymphoma must be ruled out

## ■ REFERENCES

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