

Squamous cell carcinoma arising from radiation-treated lupus vulgaris scar

Sir,

Lupus vulgaris (LV) is the most common form of cutaneous tuberculosis worldwide. It usually appears in immunocompetent patients as a result of hematogenous, lymphatic or contiguous spreading of bacilli from noncutaneous foci of infection.^[1,2] Skin lesions are usually slow-growing, primarily represented by red-brown nodules, showing an apple-jelly-colored finding in diascopic examination.^[2] LV represents a chronic and progressive skin condition, which, if untreated, leads to complications, including scars, ulcerations, local deformations and skin cancers.^[1] The majority of these cancers are squamous cell carcinomas (SCCs), known as lupus carcinomas.^[3] Two clinical types of lupus carcinomas have been singled out: cancers developing within tissues of active tuberculosis; and, in prevailing cases, tumors arising from old post-tuberculous scars.^[2,4]

A 73-year-old male patient presented to our department in 2009 with a 4-year history of a slowly growing, large, 3 cm in diameter, exophytic, verrucous and hyperkeratotic tumor on the lateral side of the neck. It had developed on an area of a porcelain-white, atrophic scar with a poorly defined margin, that had been present since 1997 [Figure 1a]. At the time of hospitalization, he was otherwise in good health, and the local lymph nodes in the cervical and submandibular region were not palpated. The past medical history of this patient included lupus vulgaris in the mentioned location. The initial symptoms of cutaneous tuberculosis had appeared 64 years ago as reddish-brown nodules. In the meantime, in the 60s of the 20th century, a trial of radiation therapy was performed, but without any effect. The final diagnosis was established in 1997 on the basis of a clinical examination (well-demarcated, brownish-red, infiltrated plaque with peripheral nodules and apple-jelly color on diascopic examination) [Figure 2], histopathological picture and adequate response to antituberculous agents (isoniazid, rifampicin and ethambutol administered for a period

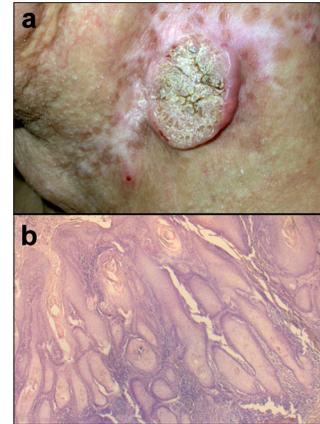


Figure 1: (a) Squamous cell carcinoma arising from post-tuberculous scar on the neck (dermatological picture in 2009). (b) Histopathological examination of excised tumor showing verrucous carcinoma with deeply penetrating nests of malignant cells surrounded by infiltrate of lymphocytes and plasmic cells (H and E, x200)



Figure 2: Lupus vulgaris on the neck (dermatological picture in 1997)

of 9 months). After antituberculous treatment, erythematous plaque regressed, leaving an atrophic scar.

The tumor lesion on the neck was excised under local anesthesia along with some of the scar tissues around its location to reduce the chance of recurrence.

How to cite this article: Kiedrowicz M, Królicki A, Bielecka-Grzela S, Maleszka R. Squamous cell carcinoma arising from radiation-treated lupus vulgaris scar. *Indian J Dermatol Venereol Leprol* 2011;77:253.

Received: August, 2010. **Accepted:** September, 2010. **Source of Support:** The authors have not been supported in financial or other manner. **Conflict of Interest:** No.

Histopathological examination revealed verrucous carcinoma (VC), an uncommon variant of SCC, exhibiting an endophytic growth pattern with deeply penetrating nests of malignant cells surrounded by inflammatory infiltrate of lymphocytes and plasmatic cells [Figure 1b]. Biopsy of the surrounding scar tissue showed no features typical for active tuberculosis. Dissection of the regional lymph nodes was not performed, as there was no evidence of their involvement in both clinical and ultrasound examination. The chest X-ray examination was unremarkable. In an 18-month follow-up evaluation, neither local recurrence nor regional lymphadenopathy was noticed. The patient remains under close medical follow-up due to the potential risk of metastases of VC; however, the incidence of such a complication in this histopathological type of SCC is minimal.

SCC is one of the most common tumors complicating the course of persistent LV. The incidence of SCC developing within lesions of this form of cutaneous tuberculosis accounts for 0.5% to 10.5% of cases.^[2] The time interval of development of lupus vulgaris to the neoplastic transformation may last even up to 79 years.^[2] The pathogenesis of SCC induction process in chronic lupus vulgaris lesions and post-tuberculosis scars has not been clearly defined. The suggested triggering factors include prolonged infiltration of inflammatory cells producing mutagenic free oxygen radicals, protracted irritation, ultraviolet irradiation exposure and radiation therapy.^[1,3] Radiotherapy appeared to be the most strongly associated risk factor in some SCC case series.^[3]

In the presented case, histopathological examination of excised tumor confirmed the diagnosis of VC, which refers to a locally aggressive, clinically exophytic, low-grade, well-differentiated clinicopathologic form of SCC with a very low incidence of metastasis.^[5] Persistent inflammatory diseases have been mentioned as important factor playing a role in the pathogenesis of VC.^[5] Therefore, persistent irritation and inflammation in LV lesions in association with chronic sun exposure and radiotherapy damage might have initiated

neoplastic transformation in the presented case.

Although it has been underlined that SCCs complicating LV usually arise on atrophic scars, most of the published reports focus on the tumors developing within lesions of active cutaneous tuberculosis.^[1,2] A Medline-based literature search has revealed only a limited number of SCC cases connected with definitive post-tuberculous scar, as it was observed in our patient.^[4]

Despite the current rarity of lupus vulgaris and its complication in the form of cutaneous cancers, the presented case strongly suggests the actuality of the problem; therefore, dermatologists should pay attention to the possibility of its existence.

**Magdalena Kiedrowicz, Andrzej Królicki,
Bielecka-Grzela Stanisława¹, Romuald Maleszka**

Department of Skin and Venereal Diseases, ¹Division of Aesthetic Dermatology, Pomeranian Medical University, Szczecin, Poland

Address for correspondence: Dr. Magdalena Kiedrowicz, Department of Skin and Venereal Diseases, Pomeranian Medical University, 72, Powstancow Wlkp. St., 70-111 Szczecin, Poland.
E-mail: magkied@poczta.onet.pl

Access this article online	
Quick Response Code:	Website: www.ijdv.com
	DOI: 10.4103/0378-6323.77493
	PMID: 21393979

REFERENCES

- Gooptu C, Marks N, Thomas J, James MP. Squamous cell carcinoma associated with lupus vulgaris. *Clin Exp Dermatol* 1998;23:99-102.
- Motswaledi MH, Doman C. Lupus vulgaris with squamous cell carcinoma. *J Cutan Pathol* 2007;34:939-41.
- Förström L. Carcinomatous changes in lupus vulgaris. *Ann Clin Res* 1969;1:213-9.
- May SB. Squamous cell carcinoma in old radiation treated lupus vulgaris scar on neck. *Arch Dermatol* 1969;100:509-10.
- Assaf C, Steinhoff M, Petrov I, Geilen CC, de Villiers EM, Schultz-Ehrenburg U, *et al.* Verrucous carcinoma of the axilla: case report and review. *J Cutan Pathol* 2004;31:199-204.