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Research Communication

Neoplastic Leg Ulcers

Lidia Sacchelli Carlotta Baraldi Cosimo Misciali Emi Dika
Giulia Maria Ravaioli Pier Alessandro Fanti

Dermatology Unit, Department of Experimental, Diagnostic and Specialty Medicine, University of Bologna, Bologna, Italy

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Skin biopsy is an important procedure for a correct diagnosis of varying skin conditions, from inflammatory to neoplastic diseases. Nevertheless, some authors still consider this procedure a high risk in patients affected by leg ulcers (LUs) and prefer reserving it for selected cases [1].

Chronic LUs are defined as wounds that do not heal after at least 3 months of therapy and may be induced by underlying vascular alterations (venous, mixed arteriovenous, and arterious) in most cases [1]. Other possible causes of LUs include vasculitis, pressure sores, inflammatory diseases, traumatic injuries, and cutaneous neoplasms [2]. Concerning this wide range of possible conditions, histopathologic examination of a skin specimen from the LU is often the most exhaustive procedure for a correct diagnosis [1, 2]. This becomes even more important when considering the considerable burden associated with inappropriate treatments and chronic diseases in general, which weighs on hospitals' and patients' budgets.

A total of 866 consecutive patients with chronic non-healing LUs who were referred to our Wound Care Unit (WCU) from January 2008 to December 2016 were submitted to an ulcer biopsy (Table 1). Of these, 329 were male and 537 female (F:M ratio 1:1.6), with a mean age of 72 years (range 50–97 years). We performed two 3-mm punch skin biopsies in each study patient: one from the border and the other from the centre of the lesion. Histopathologic examination revealed 59 (7%) neoplasms.

These occurred more commonly in elderlies (mean age was 83) and the most commonly diagnosed tumours were non-melanoma skin cancers (n = 49, 83%), in particular basal cell carcinomas (n = 33) (Fig. 1, 2) and squamous cell carcinomas (n = 16) (Fig. 3, 4). Other

Pier Alessandro Fanti
Dermatology Unit, Department of Experimental, Diagnostic and Specialty Medicine, University of Bologna
via Massarenti 1, IT–40138 Bologna (Italy)
E-Mail pieralessandro.fanti@unibo.it

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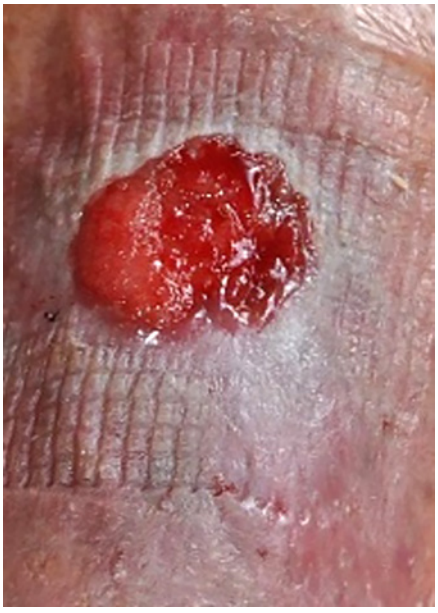

Fig. 1. Clinical presentation of a basal cell carcinoma from our series.

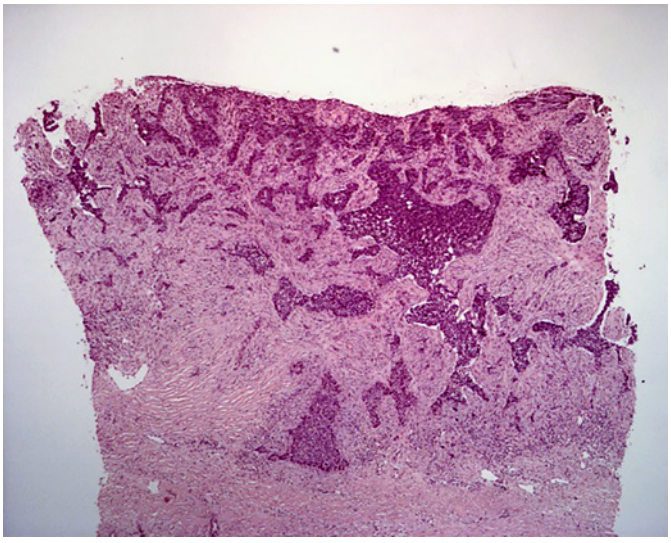

Fig. 2. Histopathologic presentation of the basal cell carcinoma shown in Figure 1.

Table 1. Summary of the total 866 chronic leg ulcerations undergoing biopsy at the Wound Care Unit of Bologna

Number of biopsies	Percentage	Histologic diagnosis
614	71	Vascular ulcers (venous, arterial, and mixed)
78	9	Inflammatory dermatitis (psoriasis, eczema, panniculitis, bullous disease, infective dermatitis)
73	8.5	Vasculitis
59	7	Neoplasms
13	1.5	Viral infections
13	1.5	Post-traumatic and pressure sores
8	1	Erosive pustular dermatitis
6	0.5	Pyoderma gangrenosum
2	<0.5	Radiodermatitis

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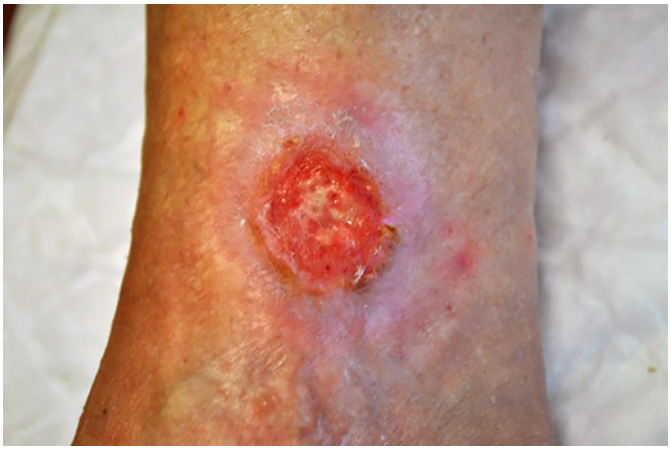

Fig. 3. Clinical presentation of a squamous cell carcinoma from our series.

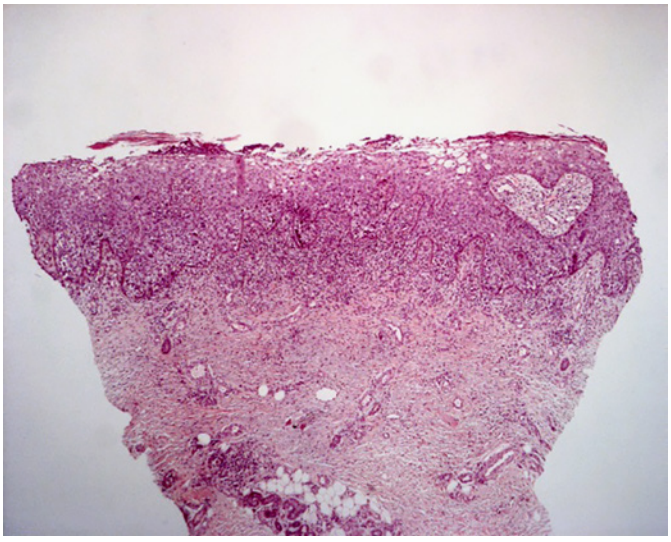

Fig. 4. Histopathologic presentation of the squamous cell carcinoma shown in Figure 3.

tumours were diagnosed as lymphomas, either primitively cutaneous or secondarism (n = 5), eccrine syringofibroadenomas (n = 2), fibroadenomas (n = 2), and porocarcinoma (n = 1).

Chronic LUs represent an increasing health burden, and there is consensus on performing skin biopsies for histopathologic examination of these lesions [3–5]. We suggest analyzing at least two samples from each lesion: of the edge and the bed of the LU. A 3-mm punch is a safe and effective tool for this purpose: no evidence of worsening has been described for any lesion undergoing this procedure, while interestingly some cases seem to benefit from the biopsy itself as it stimulates local healing [4]. The Food and Drug Administration recommends wound biopsy as a fundamental tool to detect neoplastic, immune-mediated, or infectious diseases [6]. Our experience confirms that neoplasms, in particular non-melanoma skin cancers, represent a consistent proportion of chronic LUs [7]. Emerging authors have focused on the role of chronic venous ulceration in triggering the development of basal cell carcinomas [5, 7, 8]. On the other hand, neoplastic lesions can become chronically ulcerated, for example in Marjolin ulcer, or also show ulceration from their appearance [9, 10]. In addition, ulceration is a negative prognostic factor in cutaneous neoplasms, which often present a high metastatic rate; therefore, biopsy appears even more important in these cases [9].

We believe that clinicians should be aware of the importance of an early and correct diagnosis of cutaneous neoplasms underlying chronic LUs. This could avoid diagnostic delay and guarantee the best therapeutic approach to each patient.

Statement of Ethics

The authors have no ethical conflicts to disclose.

Disclosure Statement

The authors have not received any funding source and have no conflict of interest to disclose.

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