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## Cutaneous B-cell Lymphoma: The Importance of Clinicopathologic Correlation<sup>☆</sup>

### Linfoma de células B cutáneo: relevancia de la correlación clínico-patológica

To the Editor:

Primary cutaneous follicle center lymphoma (FLC) is defined as a malignant proliferation of germinal center cells confined to the skin. It has 3 growth patterns: follicular, diffuse, and mixed. It usually presents clinically as erythematous papules, plaques, and tumors, generally without ulceration, that most often affect the head, the neck, and the trunk. There is, however, a less common variant known as reticulohistiocytoma of the back or Crosti lymphoma that affects the back and consists of plaques and tumors surrounded by macules and papules that extend outward from the tumor.<sup>1</sup>

We present a case with histologic findings that posed a diagnostic challenge and clinical features that were consistent with Crosti lymphoma. The patient was a 53-year-old man who consulted for a back lesion that had grown progressively over the previous 6 years. A previous biopsy performed at another center had shown an infiltrate composed of atypical lymphocytes with positivity for T-cell markers and abundant CD30<sup>+</sup> cells. The suspected diagnosis was mycosis fungoides with CD30<sup>+</sup> cells. No additional immunohistochemical information was available. A staging study consisting of computed tomography (CT) of the chest and abdomen and routine blood tests was normal.

Physical examination revealed several tumors and plaques surrounded by erythematous macules in the lumbar region and on the left flank (Fig. 1). There were no signs of organomegaly or lymph node enlargement.

A biopsy performed at our center showed a nodular lymphoid proliferation with a tendency to coalesce extending throughout the dermis and into the hypodermis, with no evidence of epidermotropism (Fig. 2). The lesion was composed of medium and large B cells that were positive for CD20 and CD79 and negative for CD3, CD10, CD23, and CD43; there were also, however, abundant CD3<sup>+</sup>, CD5<sup>+</sup>, and CD7<sup>+</sup>

T cells (Fig. 3). Immunostaining was positive for bcl-6 in the large cells and in some of the smaller cells. There was also bcl-2 positivity, but this was difficult to interpret due to the presence of large number of T cells. The cells were negative for CD30, contrasting with the results from the previous biopsy. Approximately 15% of the cells were positive for Ki67. Immunogenotyping revealed clonal rearrangement of immunoglobulin heavy locus (*IHG*) genes and a lack of T-cell receptor gene (*TCR*) rearrangement.

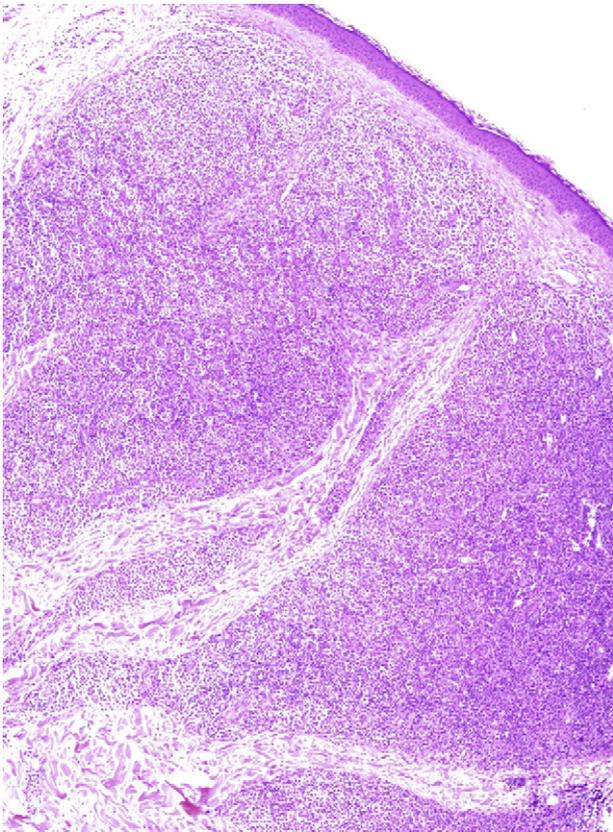
On the basis of these findings, we ordered a staging study consisting of general blood tests (including analysis of lactic acid dehydrogenase and  $\beta$ -2 microglobulin levels), a chest and abdomen CT scan, and a bone marrow biopsy. The results were all normal.

The main entity considered in the differential diagnosis was marginal zone B-cell lymphoma which, unlike cutaneous FCL, tends to be bcl-6-negative. We also considered diffuse large B-cell lymphoma, leg-type, but this is characterized by a diffuse monomorphous infiltrate with large numbers of large bcl-2<sup>+</sup> and MUM-1<sup>+</sup> cells. Because of the large number of T cells observed, we also initially considered mycosis fungoides and pseudolymphoma, but ruled these out on the basis of the clinical presentation, the type of infiltrate, the presence of *IGH* clonal rearrangement, and the lack of *TCR* clonal rearrangement<sup>2</sup> (although it should be noted that *TCR*



**Figure 1** Several tumors and plaques surrounded by erythematous macules in the lumbar region and on the left flank.

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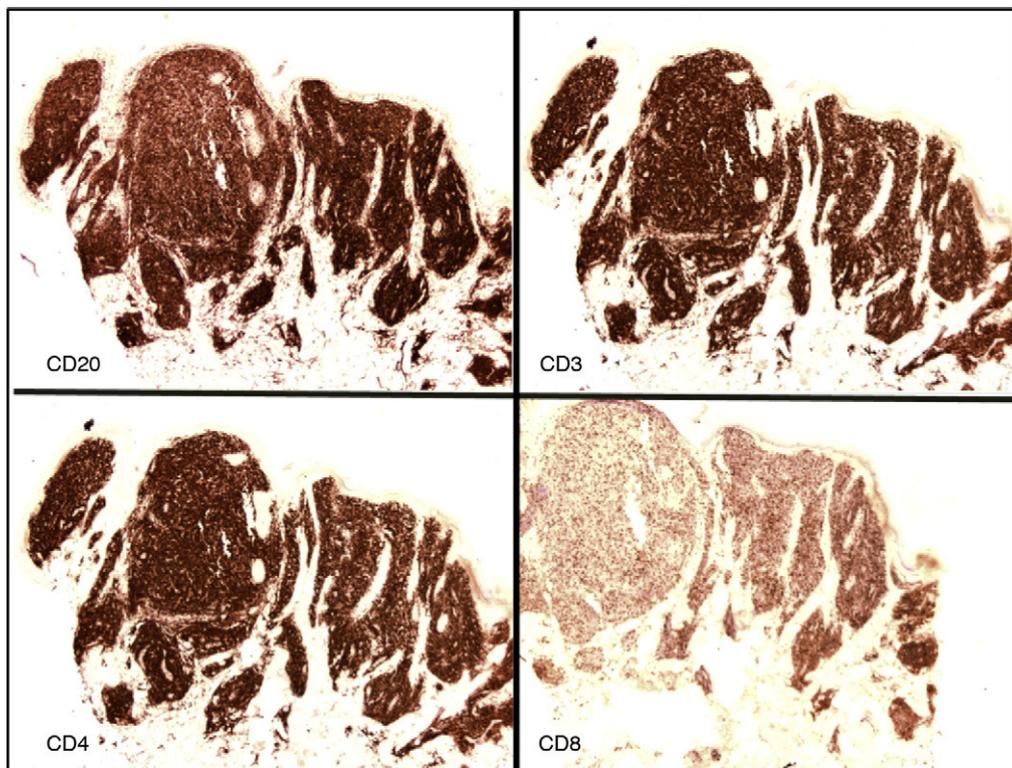
**Figure 2** The biopsy revealed a lymphoid proliferation with a nodular pattern extending throughout the dermis and into the hyperdermis, with no evidence of epidermotropism.

clonal rearrangement is not always detected in early mycosis fungoides<sup>3</sup>).

On correlating clinical and pathologic findings, Crosti lymphoma was considered the most likely diagnosis.<sup>4</sup> This classic variant of cutaneous FCL is characterized by a B-cell infiltrate with follicle center cells and a variable number of centroblasts that may be accompanied by abundant reactive T cells.<sup>2</sup> Pan B-cell markers and germinal center markers tend to be positive, but the latter may be negative in FCL with a diffuse growth pattern.<sup>5</sup> Unlike in follicular lymphoma of nodal origin, cells in Crosti lymphoma are normally not immunoreactive for bcl-2.<sup>2,6</sup> Up to 15% of primary cutaneous FCLs, however, express bcl-6 (as was the case with our patient), and this aids diagnosis.<sup>2</sup>

Following the recommendations of the European Organization for Research and Treatment of Cancer,<sup>7</sup> we initiated treatment with local radiation therapy. This led to resolution of the lesions and there were no signs of recurrence after 8 months of follow-up.

We have described a case diagnosed as Crosti lymphoma, which is a classic variant of primary cutaneous FCL generally characterized by a diffuse growth pattern and abundant immunoreactive T cells, although diagnosis can be complicated by an absence of germinal center markers.<sup>2,5</sup> In our patient, the main confounding factor was the large T-cell population as this made it difficult to interpret immunohistochemical results and observe tumor cells. The diagnosis was established following a correlation of clinical and pathologic findings.



**Figure 3** Immunohistochemistry showed almost equal numbers of B and T cells; the T cells were predominantly CD4<sup>+</sup>.

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## The Perimeter Technique in the Surgical Treatment of Lentigo Maligna and Lentigo Maligna Melanoma<sup>☆</sup>

### Técnica de delimitación del perímetro en el tratamiento quirúrgico del lentigo maligno y el lentigo maligno melanoma

To the Editor:

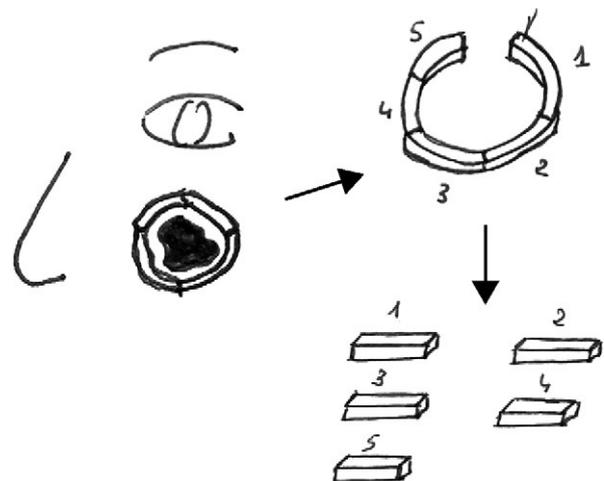
The treatment of choice for lentigo maligna (LM) and for lentigo maligna melanoma (LMM) is still complete excision of the tumor with adequate surgical margins. Conventionally, surgical margins of 0.5 cm for LM and of 1 cm for thin LMM with a Breslow depth < 1 mm have been recommended. However, numerous reports have demonstrated the need for wider margins, as the subclinical extension of the melanocytic dysplasia in LM can be greater than predicted.<sup>1–4</sup> Techniques with 3-dimensional histological control of the margins have been found to be better than conventional surgery as they are followed by fewer recurrences.<sup>4,5</sup> Since 2008, the National Comprehensive Cancer Network recommends the use of these techniques whenever possible.

Our first patient was an 84-year-old woman who presented an irregularly pigmented lesion of 2.5 cm that had been present for 4 years on her left cheek; biopsy confirmed LM. The so-called spaghetti technique (initial delimitation of the perimeter of the lesion) (Fig. 1) was chosen. This technique consists of the excision of a strip of tissue with a breadth of about 3 mm around the perimeter of the lesion; the wound is then sutured and the patient can go home with a closed wound to await the histology report (Fig. 2). The specimen is fixed in formol by sectors and marked so that

the pathologist can process it as usual and take vertical sections after embedding the tissue in paraffin. If necessary, based on findings, the surgical margins can be enlarged until free margins are achieved. Complete excision of the lesion is then performed, with closure of the defect using a flap if indicated. In this patient, free margins were achieved with excision of the first strip of tissue and complete excision of the lesion could be performed the following week.

Our second patient was a 69-year-old man with a 2-cm LM on the forehead. In this case, a polygonal excision was designed to match the outline of the lesion and the skinfolds of the forehead (Fig. 3). It was necessary to extend the margin in the superior zone in a second operation (Fig. 3B). Complete excision of the lesion and closure of the defect was performed 20 days after the first operation.

The spaghetti technique is not new, but rather the further development of an idea proposed by Johnson in 1997 and that envisaged a different strategy in the treatment of LM. First the surgical margins of the LM are established, as if the lesion was a picture and we are drawing its frame. Next,



**Figure 1** Technique to establish the perimeter of the lesion and allow histological study of the specimen by sectors.

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