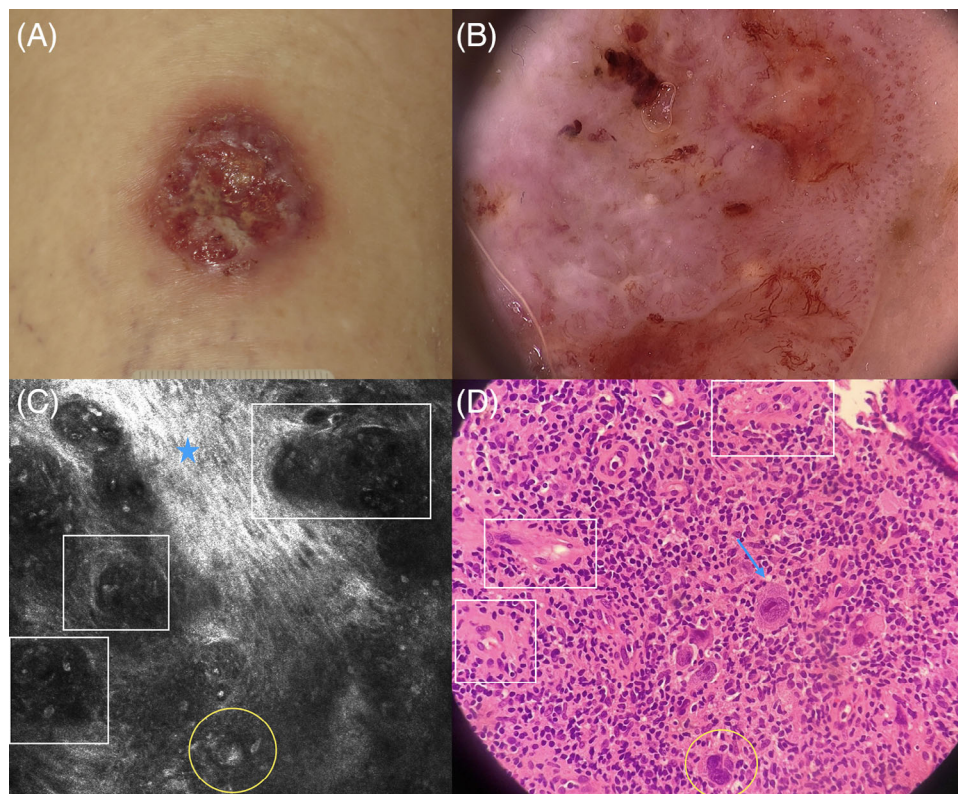


# A case of Hodgkin lymphoma with cutaneous involvement assessed with dermoscopy and reflectance confocal microscopy

Dear editor,

Hodgkin lymphoma (HL) is a haematological disorder of the lymphatic system.<sup>1</sup> Cutaneous involvement is uncommon in HL (<1%) and has been observed in both specific and non-specific manifestations.<sup>2</sup> Specific clinical aspect consist of papules, plaques, nodules or tumors, ulcerative lesions, and combinations of them, as well as erythroderma<sup>1</sup>; non-specific clinical aspect might show as pityriasis-like, psoriatic, erythema nodosum, or eczematoid.<sup>2</sup> The

cutaneous manifestations of B-cell lymphomas have been described in the literature using dermoscopy and reflectance confocal microscopy (RCM)<sup>3,4</sup>: on dermoscopy out-of-focus short linear vessels on a salmon colored background are the known features of dermoscopic criteria; on RCM focal parakeratosis, inflammatory cells, dermal sclerosis and dilated vessels represents the RCM criteria of B-cells lymphomas.<sup>3</sup> However, the dermoscopic and RCM features of HL have not been yet shown.



**FIGURE 1** Hodgkin Lymphoma with cutaneous involvement. Clinical image (A): Ulcerated nodule on the left thigh; Dermoscopic image (B): structureless milky-red areas and serpentine and glomerular vessels. RCM image (500  $\mu\text{m}$  x 500  $\mu\text{m}$ ) (C): large polynucleated cell with uneven boundaries "Reed- Stemberg cell" (yellow circle), dilated round blood vessels "buttonholes like" (white squares), sclerosis (blue star). Histopathological image (D): Hodgkin cell (blue arrow), Reed-Stemberg cell (yellow circle), vessels (white squares) and multiple inflammatory cells (magnification 40 $\times$ ).

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Here we present a case of HL with cutaneous involvement in an 81-year-old woman, characterized by a single nodule, that enabled us to identify a systemic condition.

The patient presented to our clinic with a 4-cm-diameter asymptomatic ulcerated nodule on her left thigh (Figure 1). The lesion had occurred about 3 months before.

Dermoscopy revealed structureless milky-red areas and serpentine vessels (Figure 1). RCM revealed large polynucleated cells with uneven boundaries, dilated round blood vessels ("buttonholes"), sclerosis and inflammatory cells (Figure 1). These parameters prompted us to do an immediate skin biopsy. The patient did not exhibit systemic symptoms, nor was there any palpable lymphadenopathy or hepatosplenomegaly. The patient in anamnesis reported years of adalimumab treatment for ankylosing spondylitis

Histological analysis, showed the presence of a lymphoid population consisting of small lymphocytes with a predominantly T-type phenotype, some eosinophils, epithelioid histiocytes, Hodgkin cells and Reed-Sternberg cells, with phenotype CD30+, CD15-, not strong PAX5+, CD79a-, CD20-, ALK-, MUM1+, CD45-, BCL6+, CD3-, CD5-, and CD68- (Figure 1).

These histological and immunohistochemical features were in line with Hodgkin's lymphoma (presence of Reed-Sternberg cells, dermal sclerosis and dilated vessels). Despite a negative total body CT scan, the PET scan revealed the presence of a region of significant hypermetabolism of the tracer projecting at skin level in the left thigh and in two punctiform lymph node accumulations in the left inguinal, that raised suspicions about their placement. The tumor was staged as "IIE".

Although chemotherapy is the standard therapy at this stage, given the patient's age and the areas affected, it was decided to employ radiotherapy, with chemotherapy being reserved in case of relapse. Following a rheumatology visit, the patient discontinued adalimumab.

In this case, dermoscopy showed known features of B-cell lymphomas,<sup>3</sup> but was not conclusive in distinguishing HL from B-cells lymphoma); on the contrary RCM showed characteristic features that made it possible to correlated with histological characteristics: the presence of large polynucleated cells with uneven boundaries can correlated with Reed-Stemberg cells, round blood vessels ("buttonholes"), sclerosis and inflammatory cells with dilated vessels and dermal sclerosis.

Compared to HL, where Reed-Sternberg cells are often large, polynucleated, and easily identifiable, non-Hodgkin's lymphoma tumor cells exhibit greater morphological heterogeneity.<sup>3</sup> Furthermore, RCM can assist physicians in distinguishing HL from other nodules, such as melanoma, Merkel cell carcinoma, or basal cell carcinoma.<sup>5</sup>

Further studies are nevertheless needed to investigate whether HL diagnosis may be improved by dermoscopy and RCM.

## CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

## DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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