

# Skin lesions and the role of the internist: a series of clinical cases

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## ABSTRACT

The skin often acts as an indicator of underlying internal diseases and skin lesions that are difficult to diagnose are one of the reasons for hospitalization in internal medicine departments where patients frequently arrive after a long journey between different dermatology specialists and after ineffective or sometimes responsible for diagnostic delays. In this article, we will illustrate three clinical cases observed in our General Medicine Unit of the *Ospedale del Mare* in Naples in the last year that are characterized by diagnostic errors that misled our attention, the notable difficulty in the diagnostic classification, and the duration of hospitalization necessary to reach the correct diagnosis. The first case is that of a patient diagnosed with violin spider lesions who, after a 2-week hospitalization, was discharged with the diagnosis of non-Hodgkin's lymphoma. In the second case, the patient was hospitalized for suspected lesions caused by Burger's disease and was instead discharged with a lesion caused by mycosis fungoides. The third case is that of a patient hospitalized for suspected vasculitis and discharged with the diagnosis of drug-induced toxic epidermal necrolysis.

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Key words: skin lesions, vasculitis, lymphoma, mycosis fungoides, toxic epidermal necrolysis.

Contributions: all the authors made a substantial intellectual contribution, read and approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

Conflict of interest: the authors declare that they have no competing interests, and all authors confirm accuracy.

Ethics approval and consent to participate: not applicable.

Patient consent for publication: the patients gave consent for the images to be published.

Funding: none.

Availability of data and materials: data available from the corresponding author upon request.

Received: 6 September 2024.

Accepted: 17 September 2024.

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Italian Journal of Medicine 2024; 18:1796

doi:10.4081/ijm.2024.1796

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## Introduction

Skin lesions that are difficult to diagnose are one of the reasons for hospitalization in internal medicine departments, where patients often arrive after a lengthy journey between various dermatology specialists and after ineffective or occasionally responsible diagnostic delays. The skin frequently serves as an indicator of underlying internal diseases. This case series will report three clinical cases that were marked by diagnostic errors that were seen in our general medicine unit at the Ospedale del Mare in Naples during the past 12 months.

## Case Report #1

A 71-year-old patient came to our observation due to temporospatial disorientation following a recent diagnosis of cerebral vasculopathy in another hospital. The patient had skin lesions on his left lower limb, which the dermatologist had attributed to violin spider lesions (Figure 1). The lesions appeared as voluminous, non-bleeding, duruligneous lesions. The patient reported a bite by an insect at the site of the necrotic wound that began with pruritus and erythema and then developed into an eschar. In cases where a patient has significant risk factors for necrotizing soft tissue infection, a careful history is required to determine if the patient reports a bite that may suggest a brown recluse spider bite.<sup>1,2</sup> He underwent a magnetic resonance imaging of the left leg with contrast medium, which showed marked edematous imbibition with multiple hypointense tissue areas on T1 and diffusely distributed in the subcutaneous tissue of an infiltrative type, which emerged in various points with non-specific enhancement after contrast medium. The histology showed skin infiltration from malignant non-Hodgkin lymphoma derived from immature precursors, lymphoblastic with B phenotype.<sup>3</sup>

## Case Report #2

An 85-year-old patient arrived in the department with granulomatous lesions of the face, trunk, and limbs of a granulomatous, ulcerative, purpuric type (Figure 2), which appeared about a year ago and attributed to Buerger's disease. The patient was uncooperative. From the interview with a relative, no feverish episodes and/or pulmonary involvement and/or oral or nasal lesions emerged before hospitalization. Affected by chronic cerebral vasculopathy (2 strokes), type 2 diabetes mellitus, and bed rest syndrome for about a year, he had cognitive impairment and severe hearing loss. He was hospitalized due to worsening skin manifestations spread over the entire body and face, crusted and ulcerative with involvement of the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> fingers of the left hand and the exuding palm.

The patient complained of pain from the skin lesions, making it difficult to be examined. Positron Emission Tomography-Computed Tomography (PET-CT) examination showed parenchymal microdensifications in the apical segment of the left lower lobe and in the contralateral parenchyma with bilateral pleural effusion. Multiple and widespread hypermetabolic areas were found on the cutaneous-subcutaneous level, the most significant in the splanchnocranium and the right suprascapular region, Suv max 8. Findings of a similar diagnostic nature were found



**Figure 1.** Large, necrotic, non-bleeding lesions on the lower limbs caused by non hodgkin's lymphoma.



**Figure 2.** Granulomatous lesions by mycosis fungoid type cutaneous lymphoma.

disseminated in a miliariform pattern at the level of the remaining skin. Some tracer foci were detected at the sigmoid level to be evaluated with dedicated imaging. Some adenopathies with an increased metabolic index were observed in the left groin and the left external iliac site, Suv max 8. Blood chemistry tests revealed mild anemia with hemoglobin 10.5 with hyposideremia, increased C-reactive protein, and hypoalbuminemia of 2.3 g/dL. In consideration of the PET-CT report, CT integration with and without contrast medium of the facial mass, neck, thorax, and abdomen was required. The following investigations were also required: rheumatoid factor, VES, QPE, antinuclear antibodies in immunofluorescence, anti-double stranded DNA, extractable nuclear antigen screening, P and C antineutrophil cytoplasmic antibody in invasive fungal infection, and anti-myeloperoxidase and proteinase 3 in enzyme-linked immunoassay, and urinalysis with an evaluation of the urinary sediment, which was negative. Finally, the patient underwent a skin biopsy which showed "mycosis fungoid-type cutaneous lymphoma".<sup>4</sup>

## Case Report #3

An 81-year-old female patient suffering from heart failure in severe aortic stenosis, chronic atrial fibrillation, moderate mitral insufficiency, and multifactorial anemia in chronic renal failure arrives in the department with melena (Figure 3). She stopped Coumadin and started low molecular weight heparin with the appearance of painful blisters on the limbs and face with flu-like symptoms (fever and asthenia). After excluding viral infections and vasculitis of an autoimmune nature, we hypothesized an adverse drug reaction: the main treatment was, therefore, the immediate interruption of heparin, pain control, and prevention of superinfections. The diagnosis of toxic epidermal necrolysis was timely in this case.<sup>5</sup>

## Discussion and Conclusions

The internist also has a crucial role in the diagnosis of skin diseases when they are expressions of pathologies that are difficult to classify. The elderly patient is often tossed between dermatologists, plastic surgeons, and infectious dis-



**Figure 3.** Necrotic and bleeding lesions caused by toxic epidermal necrolysis.

ease specialists without reaching the correct procedure or reaching the diagnosis very late because underestimated. There are many examples: the most common cases observed by the internist are diffuse seborrheic keratosis with the Leser-Trelat sign, which often correlates to a visceral malignant neoplasm or acute febrile neutrophilic dermatosis (Sweet's syndrome), also associated with neoplasms, hematological acanthosis nigricans, acquired ichthyosis, paraneoplastic pemphigus, erythema giratum repens, rash associated with various neoplasms or skin diseases normally associated with gastrointestinal disorders such as pyoderma gangrenosum, lichen planus, porphyria cutaneatata, bronzino diabetes, hemochromatosis, erythema nodosum and eruptive xanthomas of hypertriglyceridemia.

In our three cases, the patients came to our attention after incorrect diagnoses and spent many days in the hospital to reach the correct diagnostic and therapeutic procedure. This has increased our level of attention in evaluating skin lesions when the patient enters the department and how essential teamwork is, led by the internist who works like an orchestra conductor.

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