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**Authors**
Almeida, FT
Caldas, R
Rodrigues, AP
et al.

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# Eosinophilic dermatosis of hematologic malignancy: a case report

FT Almeida[1], R Caldas[1], AP Rodrigues[2], O Ferreira[1], C Brito[1]

Affiliations: [1]Department of Dermatovenereology, Hospital de Braga, Braga, Portugal, [2]Department of Surgical Pathology, Hospital de Braga, Braga, Portugal

*Corresponding Author: Filipa Tavares Almeida, R. das Comunidades Lusíadas 133, 4710-243 Braga, Portugal, Tel: 351-912438376, Email: filipa.almeida6@hotmail.com*

## Abstract

Eosinophilic dermatosis of hematologic malignancy (EDHM) is a dermatosis characterized by tissue eosinophilia that has been previously reported as insect bite-like reaction. It is a rare condition with a wide variety of clinical presentations ranging from papules, nodules, or blisters that simulate arthropod bites, to the formation of plaques of differing sizes. We report a case of eosinophilic dermatosis of hematologic malignancy in a patient with a hematoproliferative disorder.

*Keywords: eosinophilic dermatosis of hematologic malignancy; eosinophil disorders; cutaneous manifestations of systemic disease*

## Introduction

Eosinophilic dermatosis of hematologic malignancy (EDHM) is a dermatosis characterized by tissue eosinophilia in the context of hematologic disease. This entity has previously been reported as insect bite-like reaction [1]. It is a rare condition with a wide variety of clinical presentations, ranging from papules, nodules, or blisters that simulate arthropod bites, to the formation of plaques of differing sizes [2].

## Case Synopsis

A 71-year-old man was referred to our department owing to a pruritic eruption, which had been present for a few weeks. Significant past medical history included chronic lymphocytic leukemia (CLL) diagnosed in 2006, without need for treatment. During the same week, he was observed by the oncology department owing to new onset pancytopenia, leading to the diagnosis of a myelodysplastic syndrome (MDS). Physical examination revealed multiple erythemato-violaceous papules and nodules, located on the face, ear helices, and neck (**Figure 1**). Histological examination revealed capillary dilatation and superficial perivascular and interstitial infiltration of polymorphonuclear inflammatory cells, with frequent eosinophils (**Figure 2**). Direct immunofluorescence and enzyme-linked immunosorbent assay studies were negative for bullous pemphigoid antigen-1 and bullous pemphigoid antigen-2, excluding bullous pemphigoid. Other common causes of an eosinophil rich infiltrate were excluded, such as infections (serology for human immunodeficiency virus,

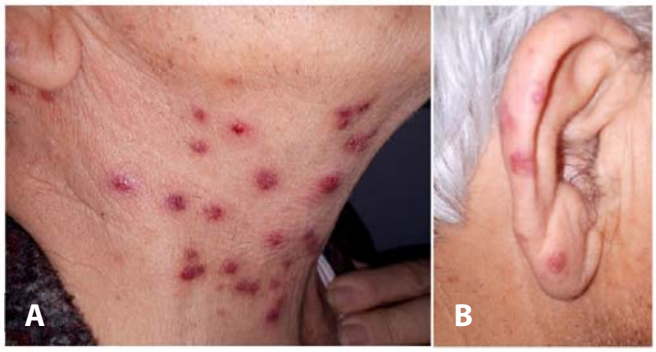


**Figure 1**. *Multiple erythemato-violaceous papules and nodules, located on the neck and right ear helix.*

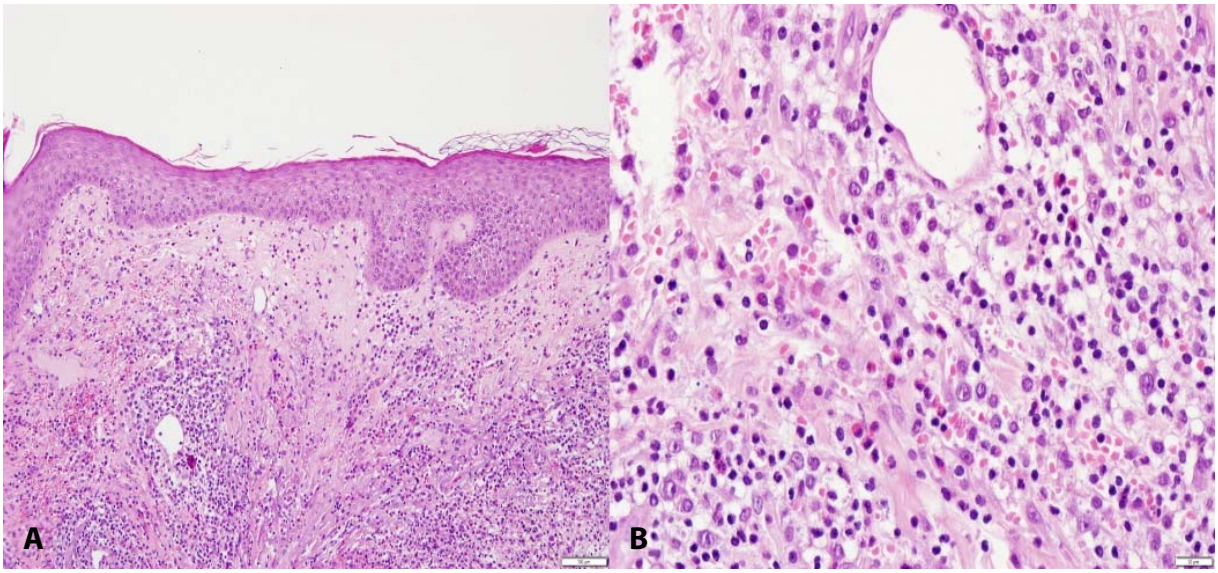


**Figure 2**. *Eosinophilic dermatosis. Histological examination revealed capillary dilatation and superficial perivascular and interstitial infiltration of polymorphonuclear inflammatory cells. H&E,* ***A)*** *100×.* ***B)*** *Higher magnification shows frequent eosinophils, 400×.*

syphilis, and hepatitis virus were negative) and drug reaction, since he was not taking any medication. The patient also denied any history of insect bite; the diagnosis of EDHM was established. He started medication with oral antihistamine, but there was a rapid deterioration of the patient's condition leading to death.

## Conclusion

Cutaneous involvement by an eosinophil-rich process may be encountered in the setting of various hematologic malignancies, presenting a diagnostic and therapeutic challenge. Although the most commonly associated malignancy is CLL, EDHM has also been associated with MDS [3]. It can precede the cancer diagnosis, occur concurrently, or appear months to years after the diagnosis [4]. Several therapeutic options have been attempted, such as antihistamines, chemotherapy, dapsone, interferon alpha, intravenous immunoglobulin, phototherapy, and radiation. Some patients report favorable responses to therapy, but the majority relapse or have an incomplete response [5]. In our case, owing to the fatal course, there was no possibility to evaluate the response to treatment.

Given the limited data on therapeutic options and refractoriness of this condition, reporting such cases emphasizes the need for further investigation into more effective treatment modalities. It is important to recognize this dermatosis and to be aware that it can indicate progression of the underlying disease.

## Potential conflicts of interest

The authors declare no conflicts of interests.

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