

# Patch-type granuloma annulare: a case report

## *Granuloma anular macular: relato de caso*

Rafael Tomaz Gomes<sup>1</sup>, Jenifer Greice Schiavetti Ribeiro Balizardo<sup>2</sup>, Carlos Zelandi Filho<sup>3</sup>, Luiza Vasconcelos Schaefer<sup>4\*</sup>

### ABSTRACT

Granuloma annulare (GA) is a benign, self-limited condition which the etiology remains unknown. It is clinically characterized as annularly, erythematous papules on the extremities. Histologically, it shows as palisading granulomas with central degenerated collagen and mucin deposits. The patient in this case report had a rare GA variant named patch-type GA. It appeared as asymptomatic erythematous macules with central clarification on the upper portion of thighs. Histopathology was compatible with interstitial-type GA. We highlight that a high index of suspicion is necessary to make the diagnosis of patch-type GA and confirmation can only be achieved through histopathology study.

**Keywords:** Dermatology. Skin Diseases. Case Reports. Granuloma Annulare.

### RESUMO

O granuloma anular (GA) é uma condição benigna, autolimitada e de etiologia desconhecida. Clinicamente é caracterizado por pápulas eritematosas anulares nas extremidades. Do ponto de vista histológico, observa-se a formação de granulomas com colágeno degenerado em sua porção central e depósito de mucina. O paciente deste caso clínico foi diagnosticado com uma variante rara de granuloma anular, na sua forma macular. A lesão se apresentava como máculas eritematosas assintomáticas na porção superior das coxas. Nos cortes histológicos, o quadro era compatível com GA do tipo intersticial. Neste trabalho enfatiza-se a necessidade de um elevado índice de suspeição clínica para o diagnóstico de GA macular e a confirmação só poderá ser alcançada através do estudo histopatológico.

**Palavras-chave:** Dermatologia. Dermatopatias. Relatos de Casos. Granuloma Anular.

## Introduction

Granuloma annulare (GA), in its typical form, is a benign dermatosis of unknown cause consisting of erythematous papules in an annular distribution, usually occurring on the extremities. In most

cases, it can be clinically diagnosed, although on occasion, a biopsy is performed to confirm. GA is recognized histologically as palisading granulomas with central degenerated collagen fibers and mucin deposits surrounded by histiocytes and lymphocytes.<sup>1-4</sup>

- 1 Médico. Cirurgião-dentista. Residente em Dermatologia do Hospital Regional de Presidente Prudente (SP).
- 2 Médica. Colaboradora do Setor de Dermatologia do Hospital Regional de Presidente Prudente (SP).
- 3 Médico. Especialista em Patologia. Colaborador do Setor de Dermatologia do Hospital Regional de Presidente Prudente (SP). Laboratório Micromed de Presidente Prudente (SP).
- 4 Médica. Especialista em Dermatologia. Preceptora do Programa de Residência Médica em Dermatologia do Hospital Regional de Presidente Prudente (SP).

CORRESPONDING AUTHOR:  
Dra. Luiza Vasconcelos Schaefer.  
Rua Francisco Machado de Campos, 360.  
CEP: 19010-300. Presidente Prudente (SP). Brasil.

Recebido em 09/09/2016  
Aprovado em 02/02/2017

GA has different clinical variants: localized, generalized, subcutaneous, perforating, and the rare patch-type.<sup>5</sup> Patch-type GA is clinically characterized as erythematous macules or patches on the trunk and extremities, and histologically it can be noted as an interstitial or incomplete-type GA. A variety of therapies have been used for GA, although most lesions resolve spontaneously over a period of months to years.<sup>6</sup>

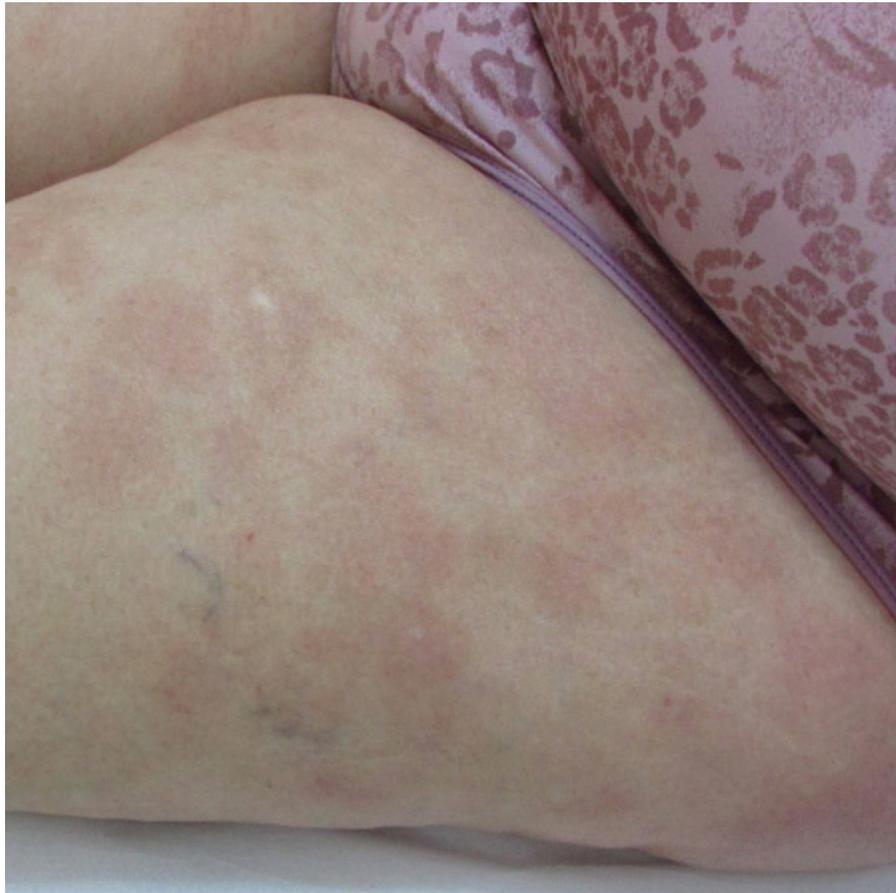
This article reports a clinical case of a 68-year-old woman with oval erythematous macules on upper thighs, which histopathology study showed interstitial GA compatible with patch-type GA.

### Case Report

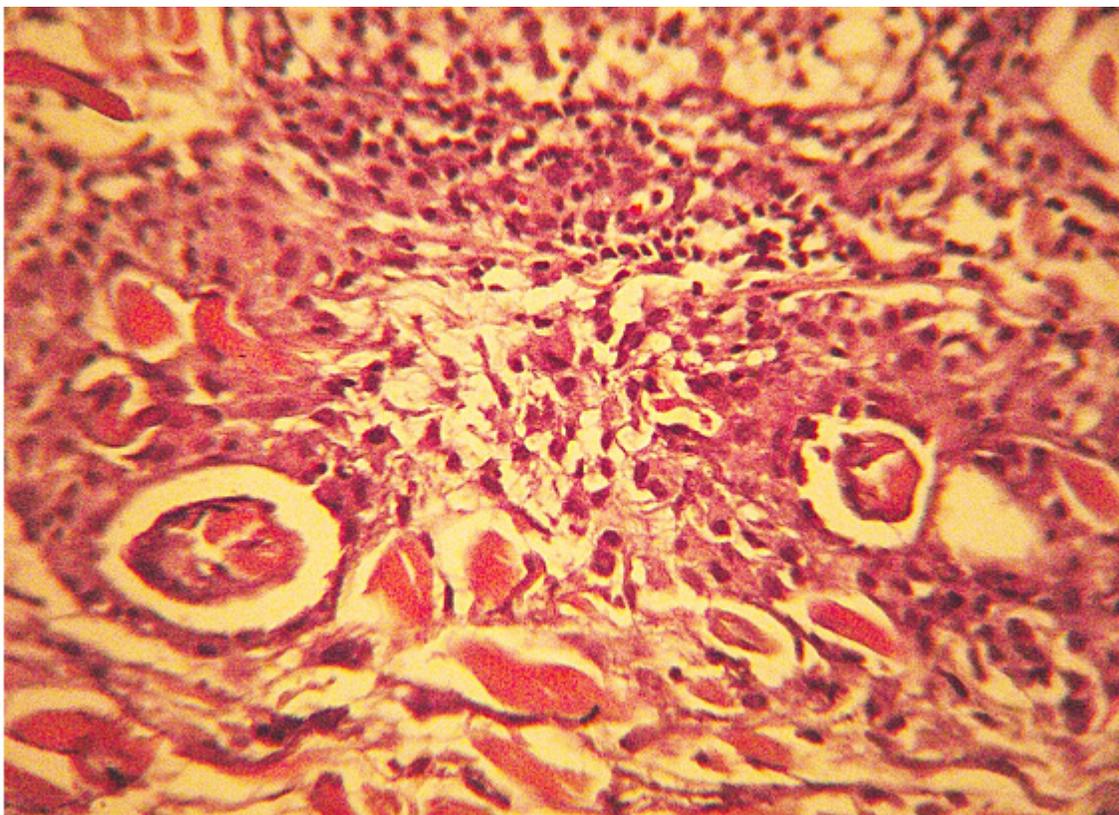
A 68-year-old caucasian woman was referred to a private practice for evaluation of a large asymptomatic rash that had been present for four months on her thighs. The lesions began as small erythema-

tous macules and subsequently increased in diameter. She had a history of hypertension, hypothyroidism, and benign paroxysmal positional vertigo. She was using the following medications: atenolol 50 mg daily, losartan 50 mg twice daily, levothyroxine 125 µg daily, betahistine 24 mg twice daily.

On physical examination, it was noted erythematous, non-scaly, oval macules, with no induration, on the upper portion of her thighs. The lesions ranged from 3 × 2 cm and 5 × 8 cm in diameter and showed a degree of central clearing (Figure 1). The initial clinical impression was drug-induced skin reaction, parapsoriasis, and mycosis fungoides. A punch biopsy was obtained from the lesion on her left thigh. Histopathology examination revealed a moderate superficial and mid-dermal interstitial infiltrate of lymphocytes and histiocytes, and degenerated collagen fibers (Figure 2). These histological findings were consistent with the interstitial variant of GA.



**Figure 1:** Oval erythematous macules with central clearing on the upper portion of thighs.



**Figure 2:** Histopathology of the skin (left upper thigh). Interstitial granuloma surrounding degenerated collagen in the superficial to mid-dermis surrounded by lymphocytes (HE x 100).

The diagnosis of patch-type granuloma annulare was made and the patient was treated with clobetasol propionate ointment 0,05% twice daily for four weeks with complete resolution.

## Comments

Patch-type GA is a rare form of GA. In most cases, the final diagnosis can only be made through a histopathology study, considering that the clinical features of patch-type GA do not show the classical configuration of erythematous papules distributed in an annular form.

Other clinical reports described in the literature discuss a similar presentation as seen in our case: multiple ovoid erythematous macules with a central clarification in the proximal areas of extremities. In the majority of cases, no symptoms were reported.<sup>4-9</sup>

So far, the pathogenesis of GA is still unknown. It has been suggested that this condition is idio-

pathic and it can be seen more frequently in female patients. Some authors suggest that GA is secondary to a delayed-type hypersensitivity reaction caused by an unknown antigen, which would cause connective tissue degradation and structural damage to elastic fibers and collagen.<sup>3-10</sup> Moreover, drugs, sun exposure, insect bites, viral infections, cancer or trauma are also considered to be associated factors.<sup>2,4,9</sup>

The differential diagnosis of patch-type GA includes morphea, erythema annulare centrifugum, mycosis fungoides, parapsoriasis, leprosy, sarcoidosis, and Lyme disease. The clinical diagnosis of patch-type GA remains a challenge. Histologically, it should be differentiated from lipoid necrobiosis and interstitial granulomatous dermatitis.<sup>4</sup>

Patch-type GA usually will respond to the same treatment as other types of GA: cryotherapy, topical and intralesional corticosteroids for localized disease, and photochemotherapy, isotretinoin, dapsone, or antimalarials for generalized disease.<sup>8,10</sup>

Resolution of patch-type GA after biopsy has also been reported<sup>7</sup> and some cases show spontaneous resolution.<sup>6,7</sup> Systemic therapy is usually unnecessary due to the relatively limited involvement and asymptomatic nature of the lesions.

In conclusion, we present in this clinical report a rare variant of GA. This subtype known as patch-type GA lacks the usual clinical findings of GA and displays histopathological features of interstitial GA. Further studies should be carried out in order to better understand this rare condition.

## References

1. Muhlbauer JE. Granuloma annulare. *J Am Acad Dermatol.* 1980;3:217-30.
2. Mutasim DF, Bridges AG. Patch granuloma annulare: clinicopathologic study of 6 patients. *J Am Acad Dermatol.* 2000;42:417-21.
3. Cyr PR. Diagnosis and management of granuloma annulare. *Am Fam Physician.* 2006;74:1729-34.
4. Victor FC, Mengden S. Granuloma annulare, patch type. *Dermatol Online J.* 2009;14:21.
5. Tsuruta D, Sowa J, Hiroyasu S, Ishii M, Kobayashi H. Concomitant occurrence of patch granuloma annulare and classical granuloma annulare. *J Dermatol.* 2011;38:482-5.
6. Rapelanoro-Rabenja F, Maleville J, Taieb A. Localized granuloma annulare in children: outcome in 30 cases. *Arch Pediatr.* 1995;2:1145-8.
7. Levin NA, Patterson JW, Yao LL, Wilson BB. Resolution of patch-type granuloma annulare lesions after biopsy. *J Am Acad Dermatol.* 2002;46:426-9.
8. Vaccarezza AM, Arigós G, Mena M, Gagliardi L, Formentini EO. Máculas eritematosas en tronco y miembros. *Arch Argent Dermatol.* 2012;62:119-20.
9. Garlatti MLB, Vacas AS, Valdivia D, Torre AC, Enz P, Galimberti R. Granuloma anular macular generalizado, asociado a linfoma Hodgkin. *Dermatol Cosmét Méd Quir.* 2015;13:318-22.
10. Font M, Botargues N, Bonilla X, Vila P. Granuloma anulare maculoso: siete nuevos casos. *Med Cután Ibero-Lat-Am.* 2004;32:23-6.