Research letter

Patch granuloma annulare: clinicopathological characteristics and response to phototherapy

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Dear Editor, Granuloma annulare (GA) is a benign cutaneous disease. Clinical variants include classic, generalized, perforating, subcutaneous and patch type GA.[1] Patch GA shows a distinct clinical presentation of smooth erythematous to brownish macules surfacing on the extremities and trunk with no evidence of papules or induration.[2] Diagnosis is usually made by histopathology revealing a pattern of interstitial GA.

In contrast to localized forms, generalized GA tends to be more persistent and there is a lack of consistently effective therapeutic options. Apart from potent topical glucocorticosteroids or calcineurin inhibitors,[3,4] treatment usually involves systemic immunosuppressants.[5,6] In addition, phototherapies have been reported to be effective in GA.[7]

In this retrospective case series the clinical and histopathological findings of 13 patients with patch GA diagnosed between 2006 and 2017 at two dermatological outpatient clinics in Vienna, Austria, are reported. Median age at time of diagnosis was 62 years [interquartile range (IQR) 55–69] and all individuals were female. Four women had a history of breast cancer and six were suffering from autoimmune thyroiditis or hypothyroidism. Of the 13 patients, 10 (77%) presented with multiple asymptomatic, slowly enlarging erythematous macules or brownish patches (Fig. 1a), which were mostly localized on the trunk and lower extremities. The histopathological examination of all skin biopsies revealed a diffuse interstitial inflammatory pattern (Fig. 1b).

In nine patients, phototherapy (depending on patient-related factors such as comorbidities and current medications as well as patient preference) was initiated, given that GA is often difficult to treat and has been reported to respond favourably to phototherapy. Of the nine patients, complete remission (defined as clinical absence of lesions) was observed in 67% (six) and partial remission (defined as clearance of at least 50%) in 33% (three) of the patients. Median follow-up time was 181 days (IQR 108–767).

Four patients received ultraviolet A1 (UVA1) phototherapy (340–400 nm) at a skin type-dependent dose of 50–70 J cm^{-2} three times weekly. Two had complete and two partial remission after a median number of 29 exposures (IQR 25–30). One of the patients with partial remission relapsed after 2 years and was then treated with oral psoralen plus UVA (PUVA), again resulting in partial remission.

Two individuals were treated with narrowband UVB (NB-UVB). One patient each achieved complete and partial remission, respectively, after a median of 21 exposures (IQR 18–24). Three patients were treated with PUVA three times weekly. All of them achieved complete remission after a median number of 22 exposures (IQR 17–26).

Patch GA is a rare and most likely underdiagnosed variant of GA manifesting as erythematous to brownish macules on the trunk and/or extremities.[2] To the best of our knowledge we here report on the largest series of patients with patch GA to date. Consistent with the literature, all of our patients were

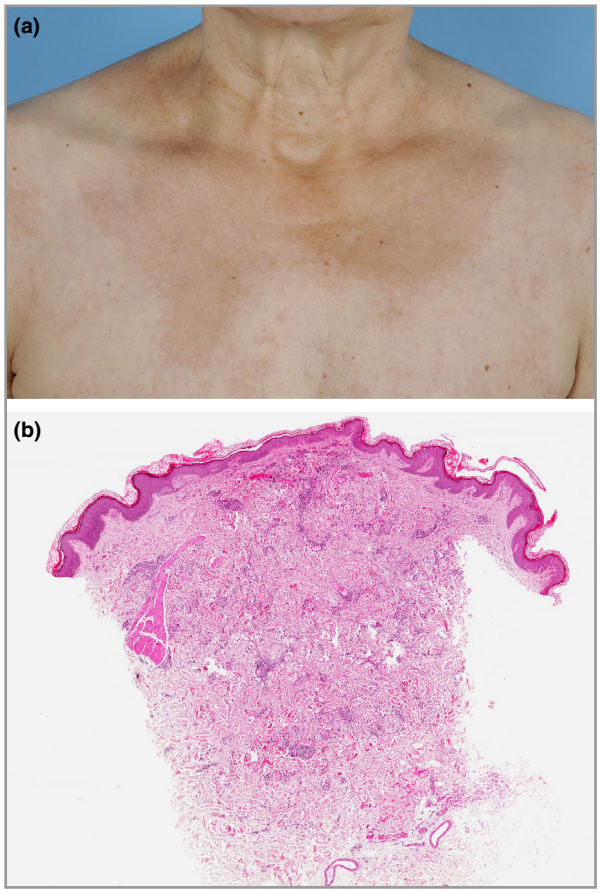

Fig 1. (a) Patch granuloma annulare. A typical patient with discrete erythematous, brownish patches on the upper trunk that had been present for 3 months. (b) Haematoxylin and eosin stain of the skin biopsy showing a diffuse interstitial inflammatory pattern characterized by a moderate superficial and mid-dermal interstitial infiltrate of lymphocytes and histiocytes and mucin deposition between the collagen fibres.

female. Of note, four (30%) of the 13 had a history of breast cancer and six (46%) had a thyroid disorder.

Due to its unusual clinical presentation, correct diagnosis and treatment of patch GA may be easily missed or delayed. Awareness of this rare variant of GA and histopathological examination of a skin biopsy are required for recognizing this uncommon condition. Some cases of patch GA have been self-limited and resolved after local therapy[2] or biopsy.[8] However, protracted courses have been observed and no treatment has been demonstrated to be consistently effective. Nine of our patients were treated with phototherapeutic modalities, resulting in complete remission in six patients and substantial improvement in three. No relapse occurred within a median follow-up period of 6 months in all but one patient. Although spontaneous remission cannot be excluded with certainty, the fact that all of our patients responded and that there was a clear temporal correlation between initiation of phototherapy and the onset of improvement strongly argues for an effect of phototherapy.

The therapeutic effect of PUVA, NB-UVB and UVA1 in mostly generalized GA has previously been documented in several small case series.[7] Depending on the phototherapeutic modality, satisfactory response rates (substantial improvement or clearing) have been obtained in 50–100% of treated patients. These results are in good agreement with our study, which showed complete remission of patch GA in 67% and substantial improvement in 33% of our cases. However, given the small number of participants included in phototherapeutic trials for GA, the heterogeneity in study design, patient population and outcome measures it is not possible to determine which of the phototherapies is most effective in the treatment of GA.

In conclusion, our case series draws attention to this rare variant of GA and proposes phototherapy as an effective therapeutic option for patients with patch GA.

[1]*Department of Dermatology, Medical University of Vienna, Vienna, Austria*
[2]*Department of Dermatology, Sozialmedizinisches Zentrum Ost-Donauspital, Vienna, Austria*
E-mail: *maximilian.aichelburg@meduniwien.ac.at*

M.C. Aichelburg[1,2]
A. Pinkowicz[1]
C. Schuster[1]
B. Volc-Platzer[2]
A. Tanew[1]

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