

Confetti-like depigmentation: A potential sign of rapidly progressing vitiligo

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Background: Confetti-like depigmentation was noted in patients reporting recent worsening of vitiligo.

Objective: We sought to determine if confetti-like depigmentation is a marker of rapidly progressing vitiligo.

Methods: Review of patient records and images of patients from a vitiligo registry resulted in 7 patients with 12 images that fit inclusion criteria and were evaluated for percent depigmentation by 3 independent reviewers. The Vitiligo Disease Activity Score and the Koebner Phenomenon in Vitiligo Score in an additional cohort of patients with confetti-like lesions were compared with patients who had vitiligo without confetti-like lesions.

Results: The mean percentage of depigmentation at baseline was 19.2%, which increased to 43.9% in images obtained at a mean of 16 weeks of follow-up. Vitiligo Disease Activity Score and Koebner Phenomenon in Vitiligo Score were significantly higher in the patients with confetti-like lesions compared with those without confetti-like lesions. A skin biopsy specimen of a confetti-like lesion in 1 patient revealed an inflammatory infiltrate in the papillary dermis with CD8⁺ T cells localized to the dermoepidermal junction.

Limitations: Small, single-center retrospective review and lack of full-body photographs are limitations.

Conclusions: A confetti-like pattern of depigmentation may be a negative prognostic indicator for patients with rapidly progressing vitiligo. Further, prospective studies to evaluate this physical finding should be performed. (J Am Acad Dermatol <http://dx.doi.org/10.1016/j.jaad.2015.05.014>.)

Key words: depigmentation; leukoderma; melanocyte; pigmentation; skin of color; vitiligo.

Vitiligo has an unpredictable course and variable response to treatment. Determining the stability of vitiligo is important to establish prognosis and select appropriate treatment. Patient history is the most commonly used method to ascertain stability.¹ The Vitiligo Disease Activity Score (VDAS) is a subjective scoring system developed by Njoo et al² but it depends on patient recall and is subject to recall bias. Other markers of activity include the isomorphic (Koebner) phenomenon and trichrome vitiligo, also known as marginal

hypopigmentation.¹⁻³ The Koebner Phenomenon in Vitiligo Score (K-VSCOR) is a recently developed tool to quantify the likelihood that vitiligo will develop at sites prone to trauma.⁴ Because the Koebner phenomenon and stability of vitiligo are linked, the K-VSCOR has been useful for clinicians to determine disease stability and activity, which can, in turn, guide therapy and estimate prognosis.⁴ Despite these tools, clinicians may still be uncertain as to the level of vitiligo activity in an individual patient and additional clinical markers would be useful in clinical practice

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and for research purposes. Furthermore, patients scored with the VDAS or K-VSCOR have not been followed up longitudinally to correlate scores with depigmentation over time.

We noted the presence of confetti-like macules on patients reporting recent rapidly progressing vitiligo. The definition of confetti-like macules is the presence of numerous 1- to 5-mm depigmented macules in groups, usually at the borders of existing lesions and not predominantly in a follicular or perifollicular location. The purpose of this pilot study was to investigate this finding in a cohort of patients and its relationship to disease activity over time.

METHODS

Part 1

A single-center, retrospective cross-sectional study of 178 patient records, including clinical images, was performed after institutional review board approval from the University of Texas Southwestern Medical Center. All patients seen as outpatients at least twice in the last 2 years who had photographic documentation of their lesions were included. Fifteen patients with a confetti-like pattern of depigmentation were identified. Seven fit the inclusion criteria for the study: no treatment in the previous year, baseline and follow-up images, and lack of treatment between visits. Images of 12 lesions from these 7 patients were evaluated for percent depigmentation by 3 independent reviewers. Each lesion was scored from 0 to 100 using the percentage component of the Vitiligo Area Scoring Index.⁵ Because confetti-like macules have been described with chemical leukoderma, information about exposure to cleaning solutions, hair dyes, or similar agents on a consistent basis was obtained from each patient.

Part 2

All patients with nonsegmental vitiligo enrolled in the institutional review board–approved Dallas vitiligo registry at the University of Texas Southwestern Medical Center were entered into this cross-sectional study. The inclusion and exclusion criteria for the Dallas vitiligo registry are broad and include every patient with a diagnosis of vitiligo who consents to enrollment. A total of 141 patients were reviewed, of whom 16 had confetti-like lesions on skin examination. Of these, 15 patients fit the following inclusion criteria: no daily topical steroid

use and no phototherapy in the previous 3 months. Sporadic or inconsistent (mean ≤ 3 times/wk) use of topical tacrolimus and pimecrolimus was allowed, because this is unlikely to affect the course of vitiligo. In all, 77 patients without confetti-like lesions also fit the inclusion criteria. Determination of the VDAS and K-VSCOR is routine for patients in the Dallas vitiligo

registry and was obtained in all patients. Clinical and demographic characteristics of the 2 groups of patients were compared, including age of onset, gender, race, ethnicity, site of onset, family history of vitiligo, and history of autoimmune diseases.

Statistical analysis

Part 1. Three evaluators reviewed the 12 images from 2 visits (baseline and follow-up) for all 7 patients. For the

2 patients with multiple lesions (one with 5 and the other with 2), the percent depigmentation using the Vitiligo Area Scoring Index across lesions was averaged for each evaluator, time point, and image. For the remaining 5 patients with 1 lesion, the percent depigmentation for each evaluator by time point was included in the analyses. To examine the effects of time, a repeated measures analysis of variance using factors of evaluator and time (baseline and follow-up 1) was performed. Means and 95% confidence intervals are reported. For 2 patients with images at a second follow-up period reviewed by 3 evaluators, 1 patient had 3 images evaluated and the other patient had 1 image evaluated. The average percent depigmentation was calculated for the patient with 3 lesions by evaluator; this was then averaged with the patient who had 1 lesion.

Part 2. Median and range is reported for VDAS and K-VSCOR. Mann-Whitney U tests were used to compare patients with and without confetti-like lesions. This nonparametric test was used because the assumptions of normality and equal variance were violated. Software was used in all analyses (SPSS, Version 21, IBM Corp, Armonk, NY); results were considered significant if *P* was less than .05.

RESULTS

Part 1

The areas of involvement in the 7 patients with confetti-like lesions were the face, hands, arms, and feet. The median time between baseline and

CAPSULE SUMMARY

- The clinical course of vitiligo is unpredictable.
- Confetti-like depigmentation was found to be associated with rapidly progressing vitiligo.
- Patients with vitiligo who present with confetti-like lesions may require more aggressive therapy to avoid rapid depigmentation.

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