Brief Report Annals of Dermatology 2022;34(2) • https://doi.org/10.5021/ad.2022.34.2.154

Unusual Case of Scalp Sarcoidosis with Alopecia: An Only Manifestation of Cutaneous Sarcoidosis without Systemic Involvement

Jin Cheol Kim, Eun-So Lee

Department of Dermatology, Ajou University School of Medicine, Suwon, Korea

Dear Editor:

Cutaneous sarcoidosis is rarely involved in scalp with alopecia, and scalp sarcoidosis is usually associated with other cutaneous and systemic manifestations[1,2]. Moreover, sarcoidosis is more difficult to diagnose in cases limited to the scalp. Herein, we report a rare case of scalp sarcoidosis with alopecia, without other skin or systemic manifestations.

An otherwise healthy 78-year-old female patient presented a diffuse pruritic erythematous spreading indurated scaly alopecic patch with peripheral rim, confined to occipital scalp, for 20 years (Fig. 1A). She had no traumatic and similar family history. A skin biopsy performed at the margin of the lesion showed multiple noncaseating and naked granulomas with Langhans-type giant cells (Fig. 2). In Periodic acid-Schiff stain and polymerase chain reaction test for *Mycobacterium tuberculosis*, no organisms were detected. No systemic involvement

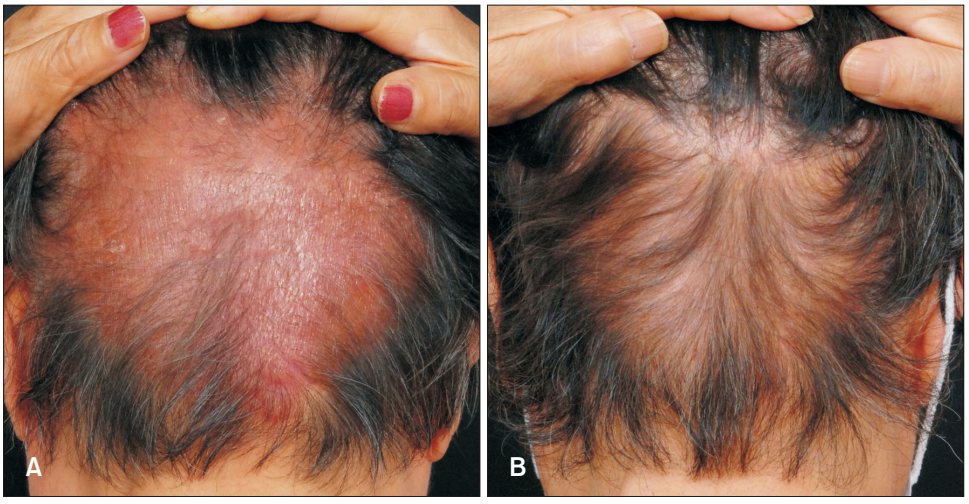

Fig. 1. (A) Clinical features of scalp sarcoidosis observed include a diffuse erythematous lichenified and indurated scaly alopecic patch with hair thinning on the occipital scalp, and a surrounding peripheral rim from which the skin tissue was taken. (B) Clinical responses to topical steroid (desoximetasone, 0.25%) applied twice daily include prominent hair regrowth and a decrease in the size of the erythematous lesion after 11 months.

Received July 7, 2020 **Revised** September 26, 2020 **Accepted** October 20, 2020

Corresponding Author
Eun-So Lee
Department of Dermatology, Ajou University School of Medicine, 164 WorldCup-ro, Yeongtong-gu, Suwon 16499, Korea
Tel: +82-31-219-5190, Fax: +82-31-219-5189, E-mail: esl@ajou.ac.kr
https://orcid.org/0000-0003-0232-7704

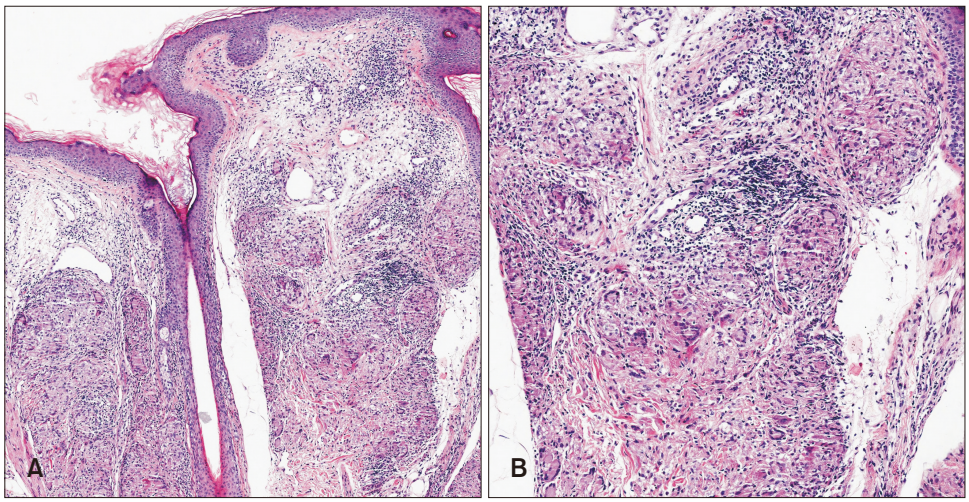

Fig. 2. Observed histologic features of skin tissue of the erythematous lesion with alopecia include multiple, well-circumscribed, nodular aggregations of epithelioid histiocytes and surrounding mild lymphocytic cells infiltrating the dermis, and a few multinucleated giant cells of the Langhans type (H&E stain; original magnification ×100 [A] and ×200 [B], respectively).

was found after ophthalmologic and cardiopulmonary evaluations. Finally, the patient was diagnosed with scalp sarcoidosis without systemic involvement, and she was treated with a topical steroid (desoximetasone, 0.25%) applied to the scalp twice daily. The progression of alopecia stopped after treatment was initiated, and the erythematous lesions were mostly resolved after 11 months of treatment without relapse (Fig. 1B).

Cutaneous sarcoidosis is mostly distributed on the central face, extremities, and areas of trauma[3,4]. Scalp sarcoidosis is rarely reported, especially in African-American women. It is characterized by erythematous scaly indurated plaques, and can cause follicular fibrosis and destruction resulting in alopecia[1,3]. Most reported cases of scalp sarcoidosis showed other cutaneous involvement on the face, neck, trunk, or extremities, in addition to systemic involvement, usually in the pulmonary tissue or lymph nodes. Therefore, these findings usually suggest a diagnosis of scalp sarcoidosis[2,5].

However, our case was difficult to distinguish from clinically similar cutaneous disorders, such as discoid lupus erythematosus, lichen planopilaris, or necrobiosis lipoidica because our patient did not show other cutaneous or systemic involvement, except for mild elevation of the serum angiotensin-converting enzyme level, 71 U/L (normal range, 20~70 U/L). Therefore, a skin biopsy was necessary to confirm the diagnosis. Although those disorders could show histologic features similar to scalp sarcoidosis, such as scarring alopecia, discoid lupus erythematosus is characterized by interface dermatitis and periadnexal infiltrates with mucin deposits, lichen planopilaris presents with lichenoid lymphocytes mostly around plugged follicles, and collagen alteration is usually seen in necrobiosis lipoidica. Additionally, as sarcoidosis is a diagnosis of exclusion[3], mycobacterial and fungal infection should always be excluded, as shown in our case.

There is no consensus on the treatment of scalp sarcoidosis, and some reports showed poor responses to systemic/topical steroids, or chloroquine[1,2], but our patient showed hair regrowth and decrease of erythema after topical steroid treatment alone.

Herein, we showed that scalp sarcoidosis could exhibit an only manifestation of cutaneous sarcoidosis without systemic involvement. Therefore, scalp sarcoidosis should be considered even if there are no other cutaneous or systemic involvements, and a diagnosis should be made only after excluding other cutaneous disorders with alopecia and various infectious diseases. Additionally, a close follow-up is necessary for the early detection of additional lesions of cutaneous or systemic sarcoidosis.

ACKNOWLEDGMENT

The patients in this manuscript have given written informed consent to publication of their case details.

CONFLICTS OF INTEREST

The authors have nothing to disclose.

FUNDING SOURCE

None.

ORCID

Jin Cheol Kim, https://orcid.org/0000-0003-3820-8811
Eun-So Lee, https://orcid.org/0000-0003-0232-7704

REFERENCES

1. Katta R, Nelson B, Chen D, Roenigk H. Sarcoidosis of the scalp: a case series and review of the literature. J Am Acad Dermatol 2000;42:690-692.
2. Knight L, Ngwanya M. Sarcoidosis of the scalp: the largest single-institutional case series. Int J Dermatol 2019;58:e149-e151.
3. Karadağ AS, Parish LC. Sarcoidosis: a great imitator. Clin Dermatol 2019;37:240-254.
4. Miura T, Kikuchi N, Yamamoto T. Cutaneous sarcoidosis in 95 Japanese patients: a single institutional study. Eur J Dermatol 2020. doi: 10.1684/ejd.2020.3745. [Epub ahead of print]
5. Ishikawa M, Ohtsuka M, Yamamoto T. Three cases of scalp sarcoidosis with alopecia. Actas Dermosifiliogr (Engl Ed) 2018;109:933-934.