Case Image

Calcinosis cutis causing cutaneous ulceration and secondary bacterial infection in a patient with antinuclear matrix protein 2 antibody–positive dermatomyositis

Ryuichi Takimiya,[1,2] Hirohisa Fujikawa,[1,3] Shinichi Shirasawa,[4] and Kiyoharu Muranaka[1]

[1]Department of Internal Medicine, Suwa Central Hospital, Chino, Nagano, Japan, [2]Department of Diagnostic and Generalist Medicine, Dokkyo Medical University Hospital, Shimotsuga-gun, Tochigi, Japan, [3]Department of Medical Education Studies, International Research Center for Medical Education, Graduate School of Medicine, The University of Tokyo, Bunkyo-ku, Tokyo, Japan, and [4]Department of Orthopedic Surgery, Suwa Central Hospital, Chino, Nagano, Japan

Key words: antinuclear matrix protein 2 antibody-positive dermatomyositis, Calcinosis cutis, dermatomyositis, emergency debridement, secondary bacterial infection

An 84-year-old woman visited our hospital because of swelling and severe pain in the right middle finger. Eighteen years earlier, skin rashes and subcutaneous calcification on the fingers appeared; she was later diagnosed with antinuclear matrix protein 2 (NXP2) antibody–positive dermatomyositis. Two weeks prior to presentation, new subcutaneous calcified lesions were noted on the right middle finger, with one lesion developing an ulceration. Three days before presentation, the patient had swelling and severe pain in her right middle finger, which gradually spread to her right forearm. On examination, redness, swelling, and tenderness were noted in the finger (Fig. 1A). The finger had calcified lesions, one of which had pus coming out (Fig. 1B,C). The redness spread in a linear pattern (Fig. 1D). Laboratory testing revealed elevated inflammatory markers. The patient was diagnosed with ulcerated calcinosis cutis and secondary bacterial infection (acute cellulitis with subcutaneous abscess and lymphangitis). Because of the severe pain and the increasing extent of lymphangitis, we decided to perform early drainage of the abscess for source control. Therefore, intravenous antibiotics were started immediately after diagnosis, and the patient was in the operating room 2 h later. During operation, subcutaneous abscess formation was observed in the middle finger; thus, debridement of the lesion was performed. Microscopic examination showed pus mixed with countless neutrophils and microcalcifications (Fig. 1E). Postoperatively, the inflammation improved after treatment with antibiotics for 2 weeks.

Calcinosis cutis is an uncommon complication of dermatomyositis,[1] including anti-NXP2–positive dermatomyositis,[2] and its complications are rarely reported. However, calcinosis cutis had led to skin ulcerations and secondary bacterial infections in very few cases.[3] As observed in the present case, ulcerative calcinosis cutis can lead to cellulitis complicated by subcutaneous abscess and progressively enlarging lymphangitis, which may require emergency debridement.

Corresponding: Hirohisa Fujikawa, MD, Department of Medical Education Studies, International Research Center for Medical Education, Graduate School of Medicine, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-0033, Japan. E-mail: hirohisa.fujikawa@gmail.com.
Received 16 Aug, 2022; accepted 26 Nov, 2022

ACKNOWLEDGMENTS

NONE.

FUNDING INFORMATION

NO FUNDING INFORMATION provided.

DISCLOSURE

Approval of the Research Protocol with Approval No. and Committee Name: N/A.
Informed Consent: Written informed consent was obtained from the patient.
Registry and the Registration No. of the Study/Trial: N/A.
Animal Studies: N/A.
Conflict of Interest: None declared.

Figure 1. (A) Redness and swelling of the right middle finger. (B) Subcutaneous calcified lesions on the right middle finger. (C) Pus coming out of the subcutaneous calcified lesion on the right middle finger. (D) Redness spreading in a linear pattern from the right middle finger to the right forearm (black arrows). (E) Microscopic examination revealing pus mixed with numerous neutrophils (red arrowheads) and microcalcifications (red arrows; hematoxylin and eosin stain, original magnification 40×).

REFERENCES

1 Balin SJ, Wetter DA, Andersen LK, Davis MD. Calcinosis cutis occurring in association with autoimmune connective tissue disease: the Mayo Clinic experience with 78 patients, 1996-2009. Arch. Dermatol. 2012; 148: 455–62.
2 Rogers A, Chung L, Li S, Casciola-Rosen L, Fiorentino DF. The cutaneous and systemic findings associated with nuclear matrix protein 2 antibodies in adult dermatomyositis patients. Arthritis Care Res (Hoboken) 2017; 69: 1909–14.
3 Balcı DD, Celik E, Sarıkaya G, Yenin JZ, Atik E. The co-existence of vulvar lichen sclerosus, ulcerated calcinosis cutis, and dermatomyositis: coincidence or immunological mechanism? Ann. Dermatol. 2011; 23: S375–9.