Annular elastolytic giant cell granuloma in a patient with squamous cell carcinoma of the tonsil

Mette Gyldenløve, MD,[a] Annesofie Faurschou, PhD,[a] Signe Ledou Nielsen, MD,[b] and Jacob Pontoppidan Thyssen, PhD, DMSci[a]
Copenhagen, Denmark

Key words: annular elastolytic giant cell granuloma; noninfectious granulomatous diseases; cancer; pathology.

Noninfectious granulomatous diseases of the skin constitute a group of distinct, reactive inflammatory conditions that are often difficult to distinguish clinically and histologically. The granulomatous reactions represent immune reactions to an inciting antigen and may be associated with systemic disease.[1] Annular elastolytic giant cell granuloma (AEGCG) is a rare variant of the granulomatous skin diseases with destruction of elastic fibers after phagocytosis by histiocytes and multinucleated giant cells in the dermis. Typically, AEGCG is clinically characterized by solitary or grouped papules forming annular plaques with elevated borders and central atrophy. We report a case of AEGCG associated with oropharyngeal cancer.

Abbreviation used:

AEGCG: annular elastolytic giant cell granuloma

CASE REPORT

A 62-year-old previously healthy man was referred from the department of oncology with an asymptomatic exanthema that had been present for 1 month. The patient was recently diagnosed with p16-positive squamous cell carcinoma in the right tonsil (T3, N0, M0) and treated with hyperfractionated radiation therapy. Physical examination found 3 demarcated papules coalescing into plaques located on the right side of his neck, chest, and right upper arm (Fig 1). Histopathology findings of a skin biopsy from the chest showed a large area of the dermis infiltrated with histiocytes, including many nonpalisading foreign body giant cells, some lymphocytes, and few eosinophils. The foreign body giant cells had intracellular elastin fragments as evidence of elastophagocytosis. Corresponding to the infiltrated area, there was complete loss of elastin fibers visualized by orcein stain. There was no mucin or necrobiosis (Fig 2). Type 2 diabetes was excluded by normal glycosylated hemoglobin. The findings were consistent with those of AEGCG. The skin lesions improved without treatment over months and were almost unnoticeable after 6 months.

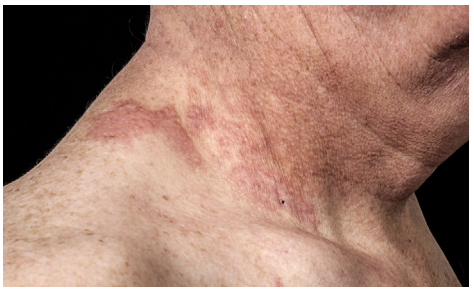

Fig 1. Clinical photo shows erythematous patch with papules at the right side of the neck.

DISCUSSION

AEGCG is typically observed in sun-exposed skin areas of otherwise healthy, middle-aged individuals. The lesions are asymptomatic and tend to resolve spontaneously without scaring over months to years. Some cases have been associated with malignancies, including acute myelogenous leukaemia,[2] adult T-cell leukaemia,[3] prostate

Department of Dermato-Allergology, Gentofte Hospital,[a] and Department of Pathology, Herlev Hospital,[b] University of Copenhagen, Denmark.
Funding sources: None.
Conflicts of interest: None declared.
Correspondence to: Mette Gyldenløve, MD, Department of Dermato-Allergology, Gentofte Hospital, University of Copenhagen, Niels Andersens Vej 65, DK-2900 Hellerup, Denmark. E-mail: mette.gyldenloeve@regionh.dk.

JAAD Case Reports 2015;1:34-5.
2352-5126

http://dx.doi.org/10.1016/j.jdcr.2014.11.001

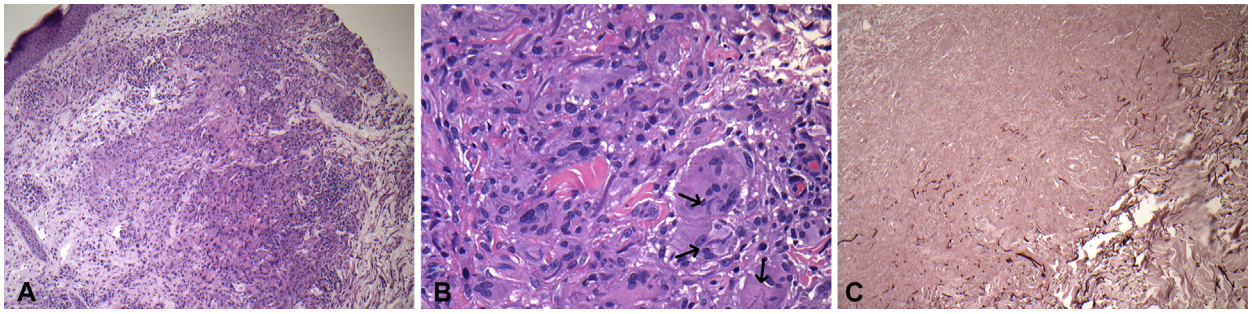

Fig 2. A, Dermal infiltrates of histiocytes and lymphocytes. **B**, Multinucleated foreign body giant cells engulfing elastolytic fibers (*arrows*). **C**, Complete loss of elastin fibers in the dermis (upper left quadrant). Note the sharp demarcation of the infiltrated area in contrast to the surrounding dermis with preserved elastin content (**C**). (**A**, Hematoxylin-eosin [H&E] stain, original magnification: ×10; **B**, H&E stain, original magnification: ×40; **C**, Orcein staining, original magnification: ×10.)

carcinoma,[4] and primary cutaneous T-cell lymphoma.[5] In 2 of the case reports, the AEGCG regressed during treatment of the cancer. Thus, AEGCG may, by its nature, be paraneoplastic and has been proposed as a systemic immunologic host defense against the tumor antigen.[5] In this case, the patient was treated with radiation therapy before the skin symptoms emerged, and a possible connection cannot be excluded. However, we do believe the association to be temporal, as the patient had skin lesions outside the irradiated area on the neck. Furthermore, to our knowledge, AEGCG has not been associated with radiation therapy or other kinds of radiation.

Physicians should be aware that AEGCG may represent the presence of an underlying malignancy and perform a thorough clinical and paraclinical examination on patients with this skin manifestation.

The authors thank Professor Christian von Buchwald from Department of Otolaryngology, Head and Neck Surgery, Rigshospitalet, University of Copenhagen, for his intellectual input, and photographer Helene Ryttersgaard for providing the clinical photo.

REFERENCES

1. Hawryluk EB, Izikson L, English JC III. Non-infectious granulomatous diseases of the skin and their associated systemic diseases: an evidence-based update to important clinical questions. *Am J Clin Dermatol*. 2010;11:171-181.
2. Garg A, Kundu RV, Plotkin O, Aronson IK. Annular elastolytic giant cell granuloma heralding onset and recurrence of acute myelogenous leukemia. *Arch Dermatol*. 2006;142:532-533.
3. Kuramoto Y, Watanabe M, Tagami H. Adult T cell leukemia accompanied by annular elastolytic giant cell granuloma. *Acta Derm Venereol*. 1990;70:164-167.
4. Asahina A, Shirai A, Horita A, Saito I. Annular elastolytic giant cell granuloma associated with prostate carcinoma: demonstration of human metalloelastase (MMP-12) expression. *Clin Exp Dermatol*. 2012;37:70-72.
5. Boussault P, Tucker ML, Weschler J, et al. Primary cutaneous CD4+ small/medium-sized pleomorphic T-cell lymphoma associated with an annular elastolytic giant cell granuloma. *Br J Dermatol*. 2009;160:1126-1128.