Annular Elastolytic Giant Cell Granuloma Heralding Onset and Recurrence of Bladder Carcinoma

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Abstract

Observations: Annular elastolytic giant cell granuloma (AEGCG) is a rare dermatosis characterized clinically by erythematous papules and annular plaques on sun-exposed skin histopathologically by granulomatous inflammation by loss of elastic tissue and elastophagocytosis. We report the case of a man with AEGCG who subsequently developed bladder carcinoma and in whom the AEGCG acted in a fashion parallel with his cancer.

Introduction

The descriptive term “annular elastolytic giant cell granuloma” (AEGCG) was first proposed by Hanke et al for lesions previously described under various names: atypical necrobiosis lipoidica or actinic granuloma [1]. AEGCG is characterized by phagocytosis of elastic fibres by multinucleated giant cells in the dermis. The pathogenesis of AEGCG is not fully understood, but it may be related to inflammation precipitated by actinic damage. In addition there have been reports of AEGCG associated with systemic disorders [2, 3, 4, 5, 6]. We report the case of a man with AEGCG who subsequently developed bladder carcinoma and in whom the AEGCG acted in a fashion parallel with his cancer.

Case Report

In 2008, a 59-year-old man presented with three years complaints of asymptomatic eruption on the dorsum of hands. The man’s personel history included diabetes mellitus and hypertension. Dermatological examination revealed annular atrophic erythematous plaques with slightly raised borders localized to the dorsum of hands.

On histological examination of a skin biopsy lymphohistiocytic infiltrates with multinucleated giant cells were seen. There was fragmentation of elastic fibres in the multinucleated giant cells. Elastic van Gieson staining revealed an absence of elastic fibers in the centre of lesion. Alcian blue stain was negative for mucin (Figure 1). The clinical and histological findings confirmed the AEGCG. The patient treated with topical clobetasol propionate with a complete response.

In 2012, the patient presented again with the same complaint to our department. Two years previously he had been diagnosed as having a urothelial carcinoma of the bladder. The urothelial carcinoma had been identified as a non-invasive, low grade, papillary carcinoma. He was treated by transurethral resection and intravesical treatment with bacillus Calmette-Guérin (BCG). A follow up cystoscopy re-
revealed a recurrent tumour 1 month before his presentation to us. On physical examination annular atrophic eryhematous plaques were seen on the dorsum of hands (Figure 2). Histopathology of a skin biopsy specimen revealed lymphohistiocytic infiltrates with multinucleated giant cells without apparent palisading (Figure 3a).

Victoria blue staining revealed phagocytosis of elastic fibres by the multinucleated giant cells and an absence of elastic fibres in the centre of lesion without apparent palisading, necrobiosis, or mucin deposition (Figure 3b, c). Based on these results, a diagnosis of AEGCG was confirmed.

Discussion

This was a typical case of AEGCG, also termed actinic granuloma when it occurs in sun-exposed skin such as face and neck, but they are also seen on nonexposed skin [1, 6]. The most common clinical presentation consists of annular plaques or patches often with elevated borders and central atrophy, although there are rare reports of a papular variant of AEGCG [3, 7, 8].

Histopathologic findings include a dermal granulomatous infiltrate with lymphocytes, histiocytes, and multinucleated giant cells, elastolysis and phagocytosis of elastic fibers by multinucleated giant cells. Although AEGCG shares histopathologic similarities with granuloma annulare, the absence of necrobiosis and mucin deposition, and the presence of dominant elastolysis and elastophagocytosis distinguish AEGCG from granuloma annulare [2, 9].

The pathogenesis of AEGCG remains unclear but it is thought that ultraviolet radiation, heat, or other factors might change the antigenicity of elastic fibres and induce a cellular immune reaction [1, 2, 3, 5, 6]. There have been case reports of AEGCG associated with malignancy: acute myelogenous leukaemia, adult T cell leukaemia, primary cutaneous CD4-positive small/medium-sized pleomorphic T-cell lymphoma and prostate carcinoma [2, 3, 4, 5]. A causal link between AEGCG and malignancy has been interpreted as a systemic immunological host defence against the tumour antigen [2, 4]. Also AEGCG associated with diabetes mellitus (DM) have been reported. DM may be a precipitating factor for AEGCG, possibly contributing to structural damage of the elastic fibres [6].

AEGCG is a persistent condition that may resolve spontaneously over months or years without scarring. Therapy options include clofazimine, chloroquine, topical, and systemic steroids, psoralen, ultraviolet A, topical tacrolimus [3, 7, 10, 11].

In our case report both cancer and diabetes may be a precipitating factor for AEGCG. AEGCG lesions appeared two years ago, after bladder carcinoma developed and reappeared with recurrent bladder carcinoma. This asso-
carnation of malignancy may be only incidental. Further studies are needed to clarify the relationship.

References


