Anetoderma: Is It a Sign of Autoimmunity?

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Key Words

Anetoderma · Thyroid · Autoimmune thyroiditis · Grave's disease · Primary hypothyroidism

Abstract

Anetoderma is a rare elastolytic disorder characterized by circumscribed areas of flaccid skin due to the loss of elastic tissue in the dermis. Primary anetoderma is frequently observed in patients with autoimmune diseases or abnormalities especially with antiphospholipid antibodies with or without antiphospholipid syndrome. In this case report we discuss a patient with primary anetoderma with positive antithyroid peroxidase antibodies, which is consistent with autoimmune thyroiditis.

Case Report

A 42-year-old Indian male had multiple small circumscribed wrinkled sacs like lesions on the shoulders and upper back of 4 months duration ([fig. 1](#)). It was not preceded by any inflammatory skin lesions. Skin biopsy was taken for histopathological examination and revealed minimal dermal perivascular chronic inflammatory cells infiltrate ([fig. 2](#)). Elastic stain (Verhoef-Van Gieson) showed loss of elastic fibers in the superficial dermis ([fig. 3](#)) and the diagnosis was consistent with anetoderma. Direct immunofluorescence (DIF) was negative for IgA, IgG, IgM, C1q, C3 and fibrinogen. CBC, ESR, and routine chemistry were normal. The patient did not have any symptoms or show any signs of antiphospholipid syndrome (APS), and screening for antiphospholipid antibodies (anticardiolipin profile, anti- β -2-glycoprotein, IgG and IgM, and lupus anticoagulant) were all negative. Also, PT, PTT and INR were within normal range. RPR, VDRL, treponema pallidum antibodies were negative. Antinuclear antibody (ANA), ENA screen (SMB, SMD, RNP-70, and RNP-A, RNP-C, SSA/RO52, SSA/RO60, SSB/LA, CENP-B, SCL-70, JO-1, Ribosomal P and histones) were negative. Thyroid panel test showed normal free thyroxine and thyroid stimulating hormone, but the patient had a positive high titer of thyroid peroxidase antibody (anti-TPO antibody) >116 IU/ml. Positive anti-TPO antibody is consistent with autoimmune thyroiditis.

Discussion

There are numerous reports and studies that link primary anetoderma (PA) to lupus erythematosus, but the relation has not been clearly established [1–14]. Moreover, there are isolated reports of PA and autoimmune diseases like primary hypothyroidism [15], Grave's disease [16], Addison's disease [14], Sjogren's syndrome [17], alopecia areata [18], vitiligo [14, 18, 19] and multiple sclerosis [20]. Now, there is a growing body of evidence to consider PA as a cutaneous sign of positive antiphospholipid antibodies with or without fulfilling the criteria of APS [16, 21–34]. In our case, there is a high titer of antithyroid peroxidase antibodies, which is consistent with autoimmune thyroiditis. This is in accordance with the work of Hodak et al. [16] who described a case of PA with Grave's disease, positive lupus anticoagulant and autoimmune hemolysis. It is important to mention that Grave's disease in the study of Hodak et al. [16] had started 5 years after the onset of the PA. In our study, there were no clinical signs or symptoms of thyroid disease at the time of diagnosis; also free thyroxine and thyroid stimulating hormone were in a normal range, but we have to take the short duration of onset of PA in our case into consideration.

Also, Bergman et al. [15] described a case of primary hypothyroidism that developed 3 years after the onset of anetoderma. From our point of view and the aforementioned literature we have to think of PA as a cutaneous sign of autoimmunity and patients should be examined and carefully tested for autoimmune diseases, especially for antiphospholipid antibodies, lupus erythematosus and also thyroid antibodies. Patients should also be followed up because associated autoimmune diseases may develop later in the course of the disease, maybe years after the onset of anetoderma.

Fig. 1. Multiple small circumscribed wrinkled sacs like lesions on the shoulders and upper back.

Fig. 2. Minimal dermal perivascular chronic inflammatory cells infiltrate.

Fig. 3. Elastic stain (Verhoef-Van Gieson) showing loss of elastic fibers in the superficial dermis.

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