resulted from infliximab treatment\(^4\); the other case was induced by etanercept\(^5\). However, unlike the present case, erythroderma was not associated with the reported cases, which could explain why the pseudolymphomatous reaction resolved after withdrawal of the drug in both cases. Moreover, in the second case described, relapse did not occur after the administration of another TNF inhibitor, adalimumab. Because our patient developed an erythrodermic reaction, treatment with TNF inhibitors was halted. Cyclosporine was used as rescue therapy and resulted in dramatic improvement without any significant side effects.

**REFERENCES**


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**Aquagenic wrinkling: A unique facial presentation**

**To the Editor:** Aquagenic wrinkling of the palms (AWP) is characterized by the formation of white papules and plaques on the palms and fingers after brief exposure to water. We extend the clinical phenotype by describing a healthy adolescent girl with aquagenic wrinkling (AW) of the face and palms.

A 16-year-old girl presented with recurrent skin changes of 18 months’ duration. She described the abrupt appearance of superficial, whitish material on her cheeks upon exposure to sweat and tap water, which resolved within hours. No preceding medications or supplements were noted. Prior treatments including topical antibiotics, corticosteroids, and emollients were ineffective.

Application of tap water to the left cheek induced off-white hyperkeratosis and wrinkling in less than 3 minutes (Fig 1). Immersion of the right hand in water for 4 minutes caused mild AW. Testing for 97 common mutations in the cystic

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fibrosis transmembrane receptor (CFTR) gene, including ΔF508, was negative.

A presumptive diagnosis of AW of the face was made. Topical aluminum chloride 6.25% solution to be applied nightly was prescribed and the patient was instructed to wash her face twice daily with normal saline. These interventions helped but did not eliminate her symptoms. Complete resolution occurred when aluminum chloride was replaced with aluminum magnesium hydroxide stearate barrier cream (Tetrix, CORIA Laboratories) (Fig 2). This cream was applied twice daily and tapered to daily as needed; she was able to discontinue all treatment after 3 months.

Aquagenic wrinkling of the palms (synonyms: transient reactive papulotranslucent acrokeratoderma, aquagenic palmoplantar keratoderma, aquagenic syringeal acrokeratoderma) is an uncommon disorder that was first recognized by Elliot in patients with cystic fibrosis (CF) and is distinct from normal wrinkling of the skin. The majority of CF patients experience some form of chronic AWP. The phenomenon may also be idiopathic and is seen in patients with marasmus, atopic dermatitis or hyperhidrosis. Several drugs can induce AWP, including nonsteroidal anti-inflammatory agents, angiotensin-converting enzyme inhibitors, and angiotensin-receptor blockers. Variants of AWP not associated with CF tend to be transitory and eventually remit. To our knowledge, there are no previous reports of AW at other anatomic sites.

The pathophysiology underlying AW is unknown. A defect in the stratum corneum altering water retention has been proposed. Studies have shown that homozygosity of the ΔF508 mutation in CFTR and the degree of transepidermal water loss correlate with severity of wrinkling; sweat chloride levels appear unrelated. Aberrant expression of aquaporin-5 may also contribute to AWP, suggesting a multifactorial pathogenesis.

Treatment of AWP includes creating a barrier against water influx into the stratum corneum. Aluminum chloride, salicylic acid 20% in petrolatum, and botulinum toxin injections have proven helpful in selected cases. Our patient with facial AW experienced symptomatic relief and a durable clinical remission with a combination of aluminum magnesium stearate hydroxide barrier cream and isotonic saline for cleansing. It remains unclear whether treatment induced the remission or controlled her symptoms until spontaneous remission occurred.

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Primary thyroid marginal zone B-cell lymphoma in a patient with psoriatic arthritis treated with etanercept

To the Editor: Primary thyroid marginal zone B-cell lymphoma is a very rare type of lymphoma that usually develops in patients with autoimmune thyroiditis.1 There are previous reports of diffuse large B-cell lymphoma and several subtypes of T-cell lymphomas possibly associated with etanercept,2,3 but marginal zone B-cell lymphoma in the thyroid is not reported to our knowledge. We present a rare case of primary thyroid marginal zone B-cell lymphoma in a patient with psoriasis and psoriatic arthritis using etanercept for 4 years.

A 58-year-old woman presented with a rapidly growing mass on the front of her neck. Twenty-six years previously, she was given the diagnosis of psoriasis based on the presence of erythematous scaly plaques on her entire body. Despite treatment with methotrexate (MTX), cyclosporine, and phototherapy, skin lesions and arthralgia of the hand and foot persisted. She was referred to the rheumatology department and given the diagnosis of psoriatic arthritis based on classification criteria for psoriatic arthritis (CASPAR) criteria. She received etanercept (50 mg per week) in combination with MTX (10 mg per week) for 4 years. Her skin lesions and arthralgia improved over time, and no major adverse event was noted in association with the etanercept use.

Neck computed tomography revealed a diffuse enlargement of the thyroid gland. Her thyroid-stimulating hormone level was elevated at 14.11 mIU/mL (normal, 0.32–5.00 mIU/mL) and other thyroid function values were within normal ranges. No evidence of autoimmune thyroiditis was observed. Thyroid fine-needle aspiration revealed polymorphous lymphocytes and a few atypical lymphocytes. The patient underwent a right hemithyroidectomy for a suspected thyroid lymphoid neoplasm. The final pathology on the surgical specimen showed dense lymphoid infiltrate containing multiple lymphoid follicles with germinal centers. The tumor cell consisted of centrocyte-like cells, small lymphocytes, plasma cells, and scattered eosinophils (Fig 1, A). They were positive for CD20, B-cell lymphoma (BCL)-2, and kappa and lambda light chain but no expression of CD3, CD10, and BCL-6, and the germinal centers were highlighted with CD21. She was given the diagnosis of low-grade B-cell lymphoma consistent with marginal zone B-cell lymphoma. She then discontinued etanercept and MTX and received 3 cycles of adjuvant chemotherapy with rituximab, cyclophosphamide, vincristine, and prednisolone and 36 Gy total of radiotherapy. No evidence of lymphoma progression was detected over 12 months. However, 2 weeks after cessation of

![Fig 1. Primary thyroid marginal zone B-cell lymphoma. Dense infiltration of mixed heterogeneous cells such as small lymphocytes, eosinophils, plasma cells, and large cells with foamy nuclei and abundant cytoplasm without normal structures of the thyroid gland (A); positive stain in the cytoplasm of tumor cells (B). (A, Hematoxylin-eosin stain; B, BCL-2 stain; original magnifications: A, ×400; B, ×200.)](http://dx.doi.org/10.1016/j.jaad.2014.05.058)