



# Aquagenic Wrinkling of the Palms

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## Case History

A 16-year-old female presented to our clinic for dyshidrotic eczema of hands and eczematous dermatitis of her nipples and arms. She was prescribed fluocinonide ointment and tacrolimus 0.1% ointment. Shortly after her visit, she reported severe wrinkling, white plaques, and ‘holes’ in both palms after exposure to water. No pain or pruritus was reported. Patient-provided photos show that following exposure to water, the patient’s palms developed exaggerated wrinkling along with keratotic, pebbly, white plaques and prominent eccrine ostia. Patient had no symptoms or family history of cystic fibrosis (CF). A CF panel was sent, screening for 78 of the most common gene mutations that cause CF. The panel returned negative. Patient was diagnosed with aquagenic wrinkling of the palms (AWP). Treatment options were discussed with the patients including aluminum chloride topicals, however, the patient was not distressed by AWP and deferred treatment.

## Discussion

This is a unique case of AWP occurring in a patient with eczema. Most cases of AWP occur in CF patients or carriers. AWP can also occur in patients with hyperhidrosis, Raynaud’s disease, marasmus, and atopic dermatitis, and those taking aspirin and rofecoxib,<sup>1-3</sup> but AWP is most strongly associated with CF.<sup>4,5</sup> Therefore, a diagnosis of AWP should prompt a thorough workup for CF. Most patients are not bothered by symptoms and defer treatment. Aluminum-based topicals are the most common treatment.<sup>2,6</sup> Botulinum toxin A can be used to manage associated hyperhidrosis and autonomic nerve dysfunction and is recommended for patients who do not respond to topicals.<sup>1</sup>

## Figures



**Figure 1 (a,b):** Exaggerated wrinkling of palms with keratotic, pebbly, white plaques and prominent eccrine ostia following exposure to water.

Feature	AWP	Aquagenic Pruritis	Aquagenic Urticaria	HPA
Age of Onset	Young adulthood	Adulthood	Adolescence or later	Adolescence
Distribution	Symmetrical; palms and soles	Symmetrical; thighs and upper arms	Trunk and upper arms	Symmetrical margins of palms and soles where there is increased pressure and trauma
Clinical Features	Exaggerated wrinkling and eruption of white or translucent papules or plaques within minutes of water exposure	Itching within seconds to minutes of coming contact with water; no visible changes to skin during itching	Development of folliculocentric weals within 30 min of water exposure; weals can appear in areas not exposed to water	Translucent, yellowish-white plaques and papules and/or wrinkling of the palms upon exposure to water
Associated Findings	Pruritus and/or pain	Excoriations and lichenification of skin due to scratching	Pruritus and sensations of burning or prickling	Sparse, fine hair and atopic diathesis
Inheritance	Sporadic	Sporadic	Sporadic	Sporadic
Course	Transient	Transient	Transient	Transient

**Table 1:** Possible differential diagnoses for aquagenic wrinkling of the palms. AWP, aquagenic wrinkling of the palms; HPA, hereditary papulotranslucent acrokeratoderma.

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