

DÀY SỪNG LÒNG BÀN TAY, BÀN CHÂN DO NƯỚC (Aquagenic palmoplantar keratoderma - APK)



Fig. 58.18 Aquagenic keratoderma. White "pebbly" changes on the palm following immersion in water. *Courtesy, Julie V Schaffer, MD.*

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Phòng Quản lý chất lượng

Bệnh viện Da liễu TP.HCM

Thành phố Hồ Chí Minh, ngày 05 tháng 7 năm 2024

MỤC LỤC

1. ĐẠI CƯƠNG

2. CƠ CHẾ BỆNH SINH

3. LÂM SÀNG

4. CHẨN ĐOÁN

5. ĐIỀU TRỊ

1. ĐẠI CƯƠNG



Figure 65.51 Transient aquagenic keratoderma showing whitish maceration of the palmar skin following immersion. (Courtesy of Dr G. Kavanagh, Royal Infirmary of Edinburgh, UK.)

Dày sừng lòng bàn tay, bàn chân do nước (Aquagenic palmoplantar keratoderma):

- Rất hiếm gặp.
- Sần, mảng sần dày sừng, màu trắng.
- Sau khi tiếp xúc với nước.

Aquagenic keratoderma

Aquagenic wrinkling of the palms

Aquagenic syringeal acrokeratoderma

Transient aquagenic palmar hyperwrinkling

2. CĂN NGUYÊN

Bệnh xơ nang (cystic fibrosis)

Vô căn

Người lành mang gen bệnh xơ nang

Thuốc: aspirin, ức chế COX-2 (celecoxib, rofecoxib), gabapentin, spironolactone, ...

REVISIÓN

La queratodermia acuagénica: actualización terapéutica

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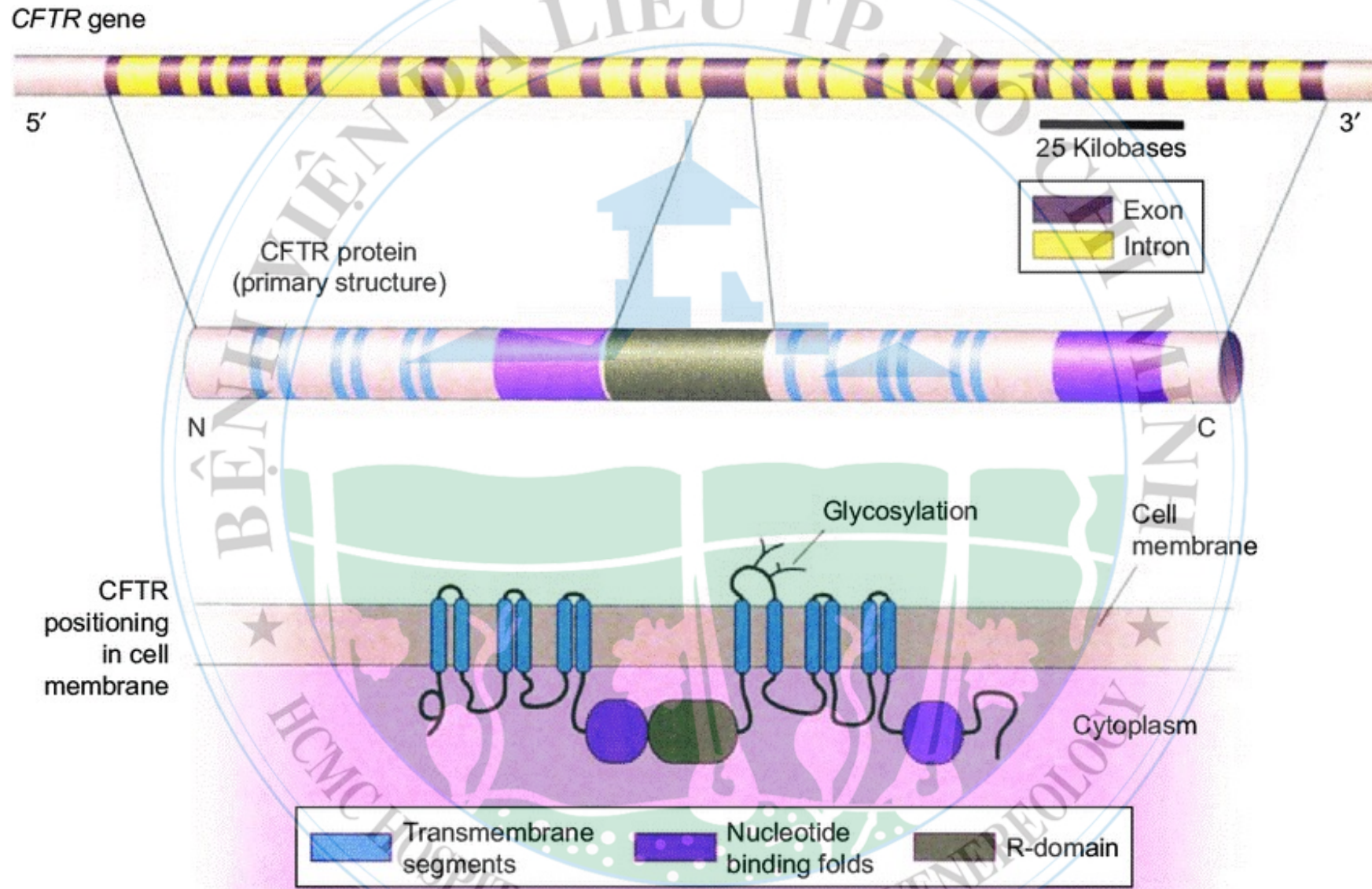


Table 1. Etiology of AK.

Cause	%
Cystic fibrosis	67.9
Idiopathic	25.1
Carrier of cystic fibrosis gene	4.4
Drugs	2.6

Abbreviation: AK, Aquagenic keratoderma.

CFTR: cystic fibrosis transmembrane conductance regulator



High Prevalence of Aquagenic Wrinkling of the Palms in Patients with Cystic Fibrosis and Association with Measurable Increases in Transepidermal Water Loss

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TABLE 1. Descriptive Statistics

<i>N</i>	CF Cases 51	Controls 25	p-value*
Age, mean ± SD	11.2 (4.9)	6.5 (4.3)	p = 0.001 (<i>t</i> -test)
Race, <i>n</i> (%)			p = 0.004
Caucasian	48 (94.1)	17 (68.0)	
African American	0 (0.0)	1 (4.0)	
Asian	3 (5.9)	7 (28.0)	
History of hyperhidrosis of the palms, <i>n</i> (%)	8 (15.6)	2 (8.0)	p = 0.48
History of atopic dermatitis, <i>n</i> (%)	5 (9.8)	13 (52.0)	p < 0.001
Aquagenic wrinkling of the palms, <i>n</i> (%)	43 (84.3)	0 (0)	p < 0.001
Investigator Global Assessment [†]			
Mean (95% confidence interval)	2.6 (2.1–3.0)	NA	
Mild (0–3), <i>n</i> (%)	32 (82.1)	NA	
Moderate (4–6), <i>n</i> (%)	7 (17.9)	NA	

*Unless noted otherwise, Fisher exact method was used.

[†]In 39 subjects only, see Fig. 2 for scoring.

3. LÂM SÀNG

- Độ tuổi 6–45, thường là phụ nữ.
- Dày sừng nhẹ xuất hiện sau vài phút ngâm tay trong nước hoặc sau khi đổ mồ hôi.
- Lòng bàn chân ít bị ảnh hưởng.
- Dấu hiệu “Hand-in-the-bucket”.
- Các sẩn màu trắng, đau, rát hoặc ngứa.
- Các tổn thương giảm bớt ngay sau khi khô tay.



Figure 65.52 Aquagenic palmar wrinkling in cystic fibrosis.

DẤU HIỆU “HAND-IN- THE- BUCKET”



4. CHẨN ĐOÁN

- Chủ yếu dựa vào lâm sàng:
 - Thương tổn xuất hiện sau khi tiếp xúc với nước.
 - Dấu hiệu “Hand-in-the-bucket”.
- Mô bệnh học: dày sừng, giãn ống tuyến mồ hôi.

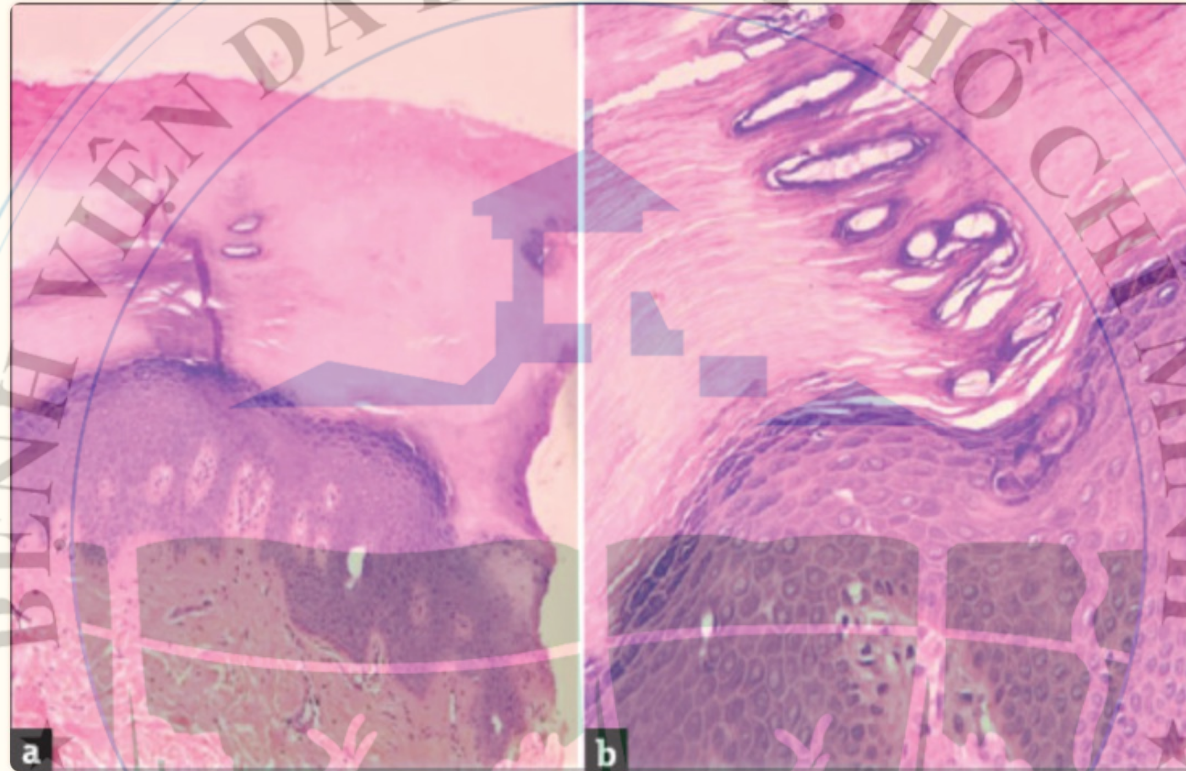


Figure 2

Skin biopsy specimen from a palmar papule revealed (a) compact hyperkeratosis with corneal spongiosis, hypergranulosis and mild-to-moderate acanthosis and dermal edema (hematoxylin & eosin, 10×), (b) compact hyperkeratosis with dilated acrosyringia both in the stratum corneum and epidermis (hematoxylin & eosin, 40×)

5. ĐIỀU TRỊ

Loại trừ các yếu tố,
các bệnh có liên
quan

Tại chỗ: aluminum
chloride

Điện chuyển ion
(iontophoresis)

Tiêm botulinum toxin
tại tổn thương

Table 2 Treatments for AK according to levels of evidence.

Reference	Treatment	Study design	Findings	No. of patients	Evidence level ^a
MacCormack et al., 2001 ¹⁴	Topical ammonium lactate, 12%; petroleum jelly; gloves	Case series	Case 1, no effect Case 2, gradual remission without treatment	2	3
Itin & Lautenschlager, 2002 ¹⁵	Antihistamines	Case series	Spontaneous remission at 2 y	2	3
Uyar, 2014 ²²	Botulinum toxin; aluminum chloride, 20%; salicylic acid, 5%; petroleum jelly; urea, 20%, cream; and salicylic acid, 5%; and mometasone furoate.	Case series	No improvement	1	3
Ertürk-Özdemir et al., 2015 ²⁵	Urea cream 10% + salicylic acid 10% + hydroxychloride aluminum 19% ointment	Case series	Improvement in 60% of patients	10	3
Diba et al., 2005 ²⁶	Botulinum toxin	Case report	Recurrence at 5 mo, need to repeat injections	1	3
Niharika et al., 2018 ²⁷	Oral oxybutynin 5 mg Maintenance with topical oxybutynin and salicylic acid, 12%	Case report	Improvement at 3 wk	1	3
Yan et al., 2001 ²⁸	Aluminum chloride, 20%	Case series	Case 1, complete resolution of symptoms after 3 mo of intermittent use Case 2, improvement for several weeks and fewer exacerbations Case 3, symptoms controlled with maintenance therapy	3	3
Syed et al., 2010 ²⁹	Aluminum chloride, 15%	Case series	Partial improvement and greater tolerance	2	3
Berna Aksoy et al., 2010 ³¹	Oral acitretin vs application of topical salicylic acid and urea, 10%	Case series	No recurrence for 6 mo on follow-up; topical salicylic acid and a urea, 10% preparation were effective but did not prevent recurrences.	2	3
Capella et al., 2004 ³²	Oral acitretin vs topical mometasone	Case series	Acitretin was significantly better ($P < .0001$) and the improvement maintained 5 mo after stopping treatment	42	3
Thestrup-Pedersen et al., 2001 ³³	Oral acitretin	Case series	50% reduction in symptoms ($P < .01$) vs 9% reduction in the placebo group ($P > 0.05$)	29	3
Lowes et al., 2000 ³⁴	Iontophoresis	Case report	No response	1	3
Errichetti & Piccirillo et al., 2015 ³⁵	Iontophoresis (no response after previous application of aluminum chloride, 20%)	Case report	Significant response	1	3
Zekayi et al., 2015 ³⁶	Urea, 10% ointment; aluminum chloride, 19% cream; botulinum toxin	Case report	No response	1	3
Sezer et al., 2015 ³⁹	Endoscopic thoracic sympathectomy	Case report	No recurrence after 1 year	1	3
Żychowska et al., 2017 ⁴¹	Aluminum chloride, 20%	Case report	Improvement without recurrences for 6 mo	1	3
Cemil et al., 2018 ⁴²	Aluminum chloride, 20% cream	Case report	Recurrence after treatment stopped	1	3
Angra et al., 2016 ⁴⁵	Aluminum chloride, 20%	Case report	Improvement in the extension, frequency, and duration of episodes	1	3

Abbreviation: AK, Aquagenic keratoderma.

^a The categories of the Scottish Intercollegiate Guidelines Network (SIGN) were used to assess evidence quality.

Aquagenic palmoplantar keratoderma ☆,

☆☆, ☆

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Abstract

Aquagenic palmoplantar keratoderma is an acquired condition characterized by burning and edema limited to the hands after brief immersion in water. The 3 patients described possess a striking similarity to those with transient reactive papulotranslucent acrokeratoderma. All 3 patients manifested the “hand-in-the-bucket” sign, having presented to a physician with a hand immersed in a bucket of water to more promptly demonstrate the physical findings. Aluminum chloride hexahydrate represents a potentially valuable therapeutic option for this unusual condition. (J Am Acad Dermatol 2001;44:696-9.)

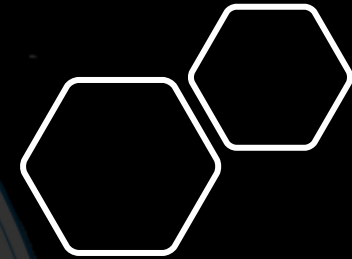


Table I. Clinical features of affected patients

Patient No.	Sex	Age (y) at onset	Clinical features	Atopic background	Response to therapy
1	F	9	Burning and swelling of palms after immersion in water	Asthma	Controlled within 2 wk using aluminum chloride; remitted within 3 mo
2	F	21	Painful swelling of palms and soles after immersion in water	Allergic rhinitis	Improvement within several weeks using aluminum chloride; fewer exacerbations noted while maintained on topical therapy
3	F	14	Burning and swelling of palms after immersion in water	None	Controlled within 2 wk using aluminum chloride; alternate therapy used for maintenance

BRIEF REPORT

Acquired aquagenic syringal acrokeratoderma: A case series of 10 patients

Emel Ertürk-Özdemir ✉, Deren Özcan, Deniz Seçkin

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Emel Ertürk-Özdemir, MD. Deren Özcan, MD. Deniz Seçkin, MD.

Conflict of interest: none

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TOOLS



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Abstract

Aquagenic syringal acrokeratoderma is a rare acquired disorder that predominantly affects young women. It is most commonly localised on the palms. It is characterised by translucent papules, oedematous plaques and keratoderma developing after brief exposure to water and resolving shortly after drying. We have observed 10 patients with this disorder within 13 months. We think that aquagenic syringal acrokeratoderma is a more common condition than was originally anticipated as one can easily underdiagnose this entity due to the transient nature of its clinical findings.



Figure 1 Palmar area after 5-min. immersion in water showing (a) whitish papules and exfoliated areas in patient 1; (b) white papules and plaques in patient 2; (c) translucent papules in patient 3; (d) white, hyperkeratotic plaque in patient 4.

Table 1 The clinical and histopathological characteristics, and treatment responses of the patients

No	Age (years)	Sex	Age at onset (years)/duration of lesions	Associated conditions	Clinical appearance	Clinical symptoms	Histopathology	Response to treatment
1	12	F	12/2 months	Hyperhidrosis	White papules, oedematous plaques	–	Orthohyperkeratosis, hypergranulosis and dilatation of eccrine ducts	Complete
2	31	M	30/1 year	–	Whitish papules and plaques	–	NA	Complete
3	26	M	26/3 months	Hyperhidrosis	White, flat-topped papules and plaques	Burning	NA	Complete
4	26	M	26/1 month	Hyperhidrosis	Hyperkeratotic, flat-topped papules, oedematous plaques and exfoliation	–	Orthohyperkeratosis, hypergranulosis and acanthosis	Complete
5	26	M	26/1 month	–	White papules, oedematous plaques with accentuation of eccrine ducts	–	NA	Partial
6	36	F	35/1 year ★	–	White papules and plaques, dilated eccrine ducts	Burning	NA ★	Complete
7	20	F	20/1 month	Hyperhidrosis	Whitish oedematous papules	–	NA	Partial
8	23	F	23/2 months	–	Whitish papules	–	NA	Complete
9	22	M	22/1 month	Hyperhidrosis	Hyperkeratotic whitish papules, exfoliation	–	Orthohyperkeratosis and hypergranulosis	Partial
10	50	M	20/30–35 years	Hyperhidrosis	Whitish papules and oedematous plaques	–	Hyperkeratosis and hypergranulosis	Partial

F, female; M, male; NA, not available.

Aquagenic Keratoderma Treated with Tap Water Iontophoresis

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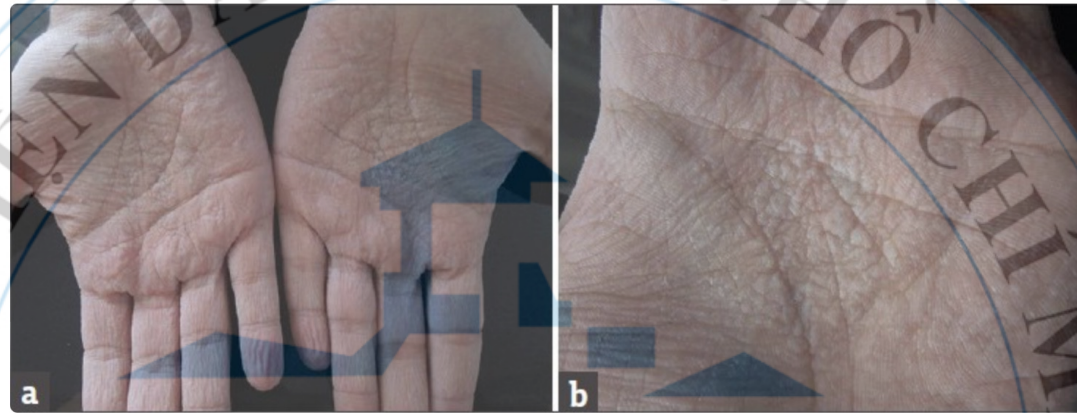
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Case Report

This was a case report of a 30-year-old male patient presented with a 3-year history of a burning sensation and papular lesions on both palms arising after sweating or immersion in water for a few minutes. The manifestations were transient and resolved within 30-60 min after drying his hands. No other family members presented similar findings. Patient also reported a history of hyperhidrosis, while denied relevant personal pathological antecedents or history of drug intake. Physical examination revealed a normal palmar skin surface. After immersing the hands in water at 15°C for 5 min, small white pebble-like papules with prominent eccrine ostia were evident [Figure [1a](#) and [b](#)] and the patient reported a burning sensation. The lesions and symptoms normalized within 40 min after drying. The history and clinical observations led to the diagnosis of AK. Considering the possibility of association between AK and CF,[\[5\]](#) we decided to perform a sweat test, which showed a normal amount of chloride; the patient declined further genetic testing for CF.

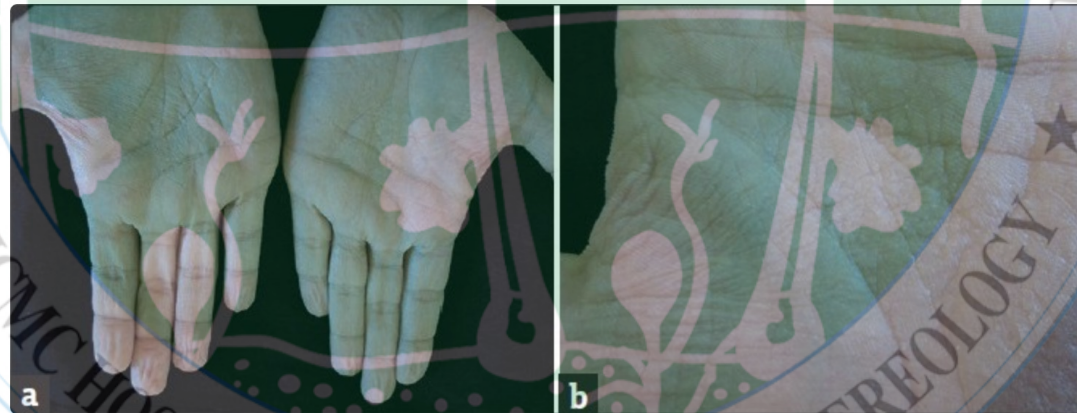
He was treated with topical 20% of aluminum chloride applied once daily, without any significant results on AK and hyperhidrosis after 6 weeks of therapy. Therefore, we decided to suspend it and start a new treatment with tap water iontophoresis; both hands in the pronated position were immersed in tap water and were exposed to controlled electric current (10-15 mA) for 15 min on Monday, Wednesday and Friday for 4 weeks. No side-effects were observed, except for the onset of some transient white papules on the palms associated with a tolerable fleeting burning sensation; both findings decreased gradually over the therapeutic sessions. At the end of treatment schedule, we performed a new immersion test, which showed a notable clinical improvement with remission of the burning sensation [Figure [2a](#) and [b](#)]. Furthermore, the patient reported a significant improvement of hyperhidrosis. During the subsequent 3-month follow-up period, the patient retained the results achieved.

Figure 1



(a) Small white pebble-like papules with prominent eccrine ostia after immersing the hands in water at 15°C for 5 min; (b) magnification of the papules after immersion

Figure 2



(a) A new immersion test after treatment with tap water iontophoresis for 4 weeks shows a notable clinical improvement; (b) magnification of the prior image

Botulinum toxin is helpful in aquagenic palmoplantar keratoderma

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V.C. Diba, G.C. Cormack, N.P. Burrows

British Journal of Dermatology, Volume 152, Issue 2, 1 February 2005, Pages 394–395,

<https://doi.org/10.1111/j.1365-2133.2005.06417.x>

Published: 01 February 2005

Over the next 6 months both feet became affected and the changes were occurring more often. A trial with aluminium chloride hexahydrate had been unsuccessful, and our patient was now minimizing all contact with water. Botulinum toxin (Botox[®]; Allergan, High Wycombe, Bucks, U.K.) injections were therefore considered. Following median and ulnar nerve blocks with 2% lignocaine, the left palm was injected at multiple sites with a total of 50 IU of botulinum toxin reconstituted in 2 mL of normal saline. Injections were placed immediately subdermally with a 30FG needle and 1 mL syringe. Within 7 days the patient started to notice a significant improvement. After immersion of her hands in water, she continued to experience tingling sensations along the radial and ulnar borders of her hands, beyond the areas treated with botulinum toxin. Minimal changes were evident on the left palm although the wrinkling and swellings were still prominent on the fingers, which had not been treated. Five months later, there was recurrence of her symptoms and the botulinum toxin injections were repeated. She also requested the same treatment for the right hand.

KẾT LUẬN

APK là bệnh lý rất hiếm gặp.

Nguyên nhân chưa được hiểu rõ.

Một số nghiên cứu chỉ ra mối liên hệ giữa APK và bệnh xơ nang.

Chẩn đoán APK chủ yếu dựa vào lâm sàng.

Mục tiêu điều trị: loại bỏ tổn thương, giảm sự khó chịu và ngăn ngừa tái phát.

The background features a large, faint circular seal of the HCMC Hospital of Dermato-Venerology. The seal contains a central emblem with a building and a tree, surrounded by text in both Vietnamese and English. The Vietnamese text at the top reads 'BỆNH VIỆN DA LIỄU TP. HỒ CHÍ MINH' and at the bottom 'HOSPITAL OF DERMATO-VENEREOLOGY'. The English text at the bottom reads 'HCMC HOSPITAL OF DERMATO-VENEREOLOGY'.

**XIN CHÂN THÀNH CẢM ƠN SỰ
THEO DÕI CỦA
QUÝ ĐỒNG NGHIỆP**