Allergic Contact Dermatitis Masquerading Recalcitrant Atopic Dermatitis?: A Case Report

Levina Ameline Moelyono*, Endi Novianto, Windy Keumala Budianti, Eyleny Meisyah Fitri, Anggita Nur Aziza, Sesilia Sutanto

Department of Dermatology and Venereology, Faculty of Medicine Universitas Indonesia, Dr. Cipto Mangunkusumo National Hospital Jakarta, Indonesia.

The Learning Objective of the Presentation

- Provide insight of possible interplay between atopic dermatitis and allergic contact dermatitis in patients with recalcitrant AD
- Increasing clinical judgement in indications of performing patch testing in AD patients

Takeaways

- The complex interplay between AD and ACD may be overlooked, yet initial suspicion and vigilant evaluation needed to optimizie management of recalcitrant AD to increase patient outcomes

Declaration of Conflict of Interest for the authors

- I have no actual, potential, or perceived conflict of interest related to this case report

Outline

01 Case Presentation

02 Follow-up

03 Discussion

04 Conclusion

Case presentation

History of current illness

Mr. ACH, M, 40 years old
Chief complaint:
Thick, itchy red patches on the face, armpits, lower back, and right thigh since childhood, that have worsen over the past 3 years.

1990-2020

- **Chronic and relapsing** thickened r**ed patches on the folds of arms and face.**
- Diagnosed with **eczema** and prescribed **ointments** and **oral steroids**
- **Self-medicating** with oral steroids.
- Complained of **blurred vision**, diagnosed as **secondary glaucoma caused by steroid overuse.**

Figure 1. Clinical pictures on first visit (2022)

2022-2025

- **Referred to Cipto Mangunkusumo Hospital (RSCM).**
- **Lesion occasionally worsen** mainly on the **face armpit, and right thigh** without prior known trigger.
- Laboratory result **unremarkable.**

Figure 2. Clinical pictures on March 2025

Dermatologic Status:
Face, armpit, lower back, right thigh: erythematous patches-plaques-faintly **erythematous**, white scales and **lichenification,** with **excoriations and scratch marks**

Case presentation

Social and personal care

- **Private employee working mostly indoors.**
- Bathes twice daily **using lukewarm water and a non-SLS, non-paraben moisturizing soap.**
- Routinely applies **ceramide-based moisturizer** and **petrolatum jelly.**

Previous history

- **High blood pressure** since the start of systemic AD treatment and received **Candesartan 4 mg** once a day.

No known trigger for AD

Treatment history

- **Cyclosporine 1.5 mg/kg body weight/day for 8 months :** discontinued due to elevated renal function.
- **Methotrexate 12.5 mg per week for a year.**
- **Topical steroid of desoximethasone cream 0.025% twice daily** on lichenified areas on the trunk and **fluocinolone acetonide cream 0.25% twice daily on facial lesions.**
- Clinical improvement was lacking, **reintroduced to cyclosporine 2.2 mg / kg body weight.**

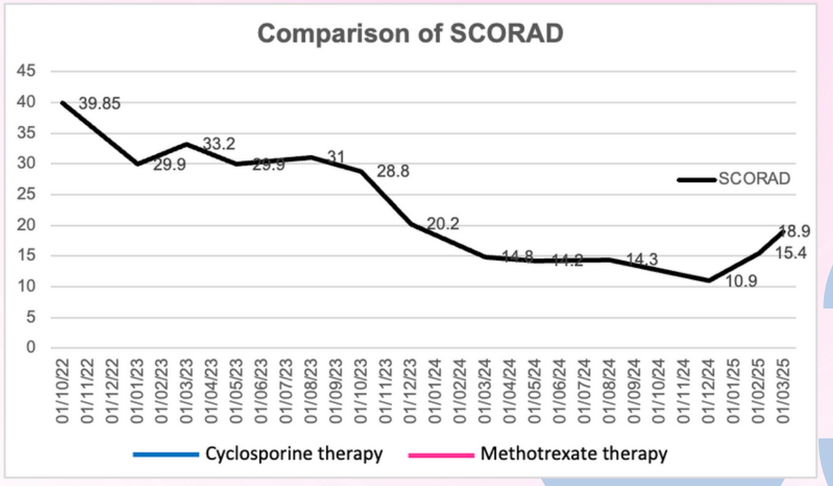


Figure 3. AD severity fluctuated between moderate and mild, with the highest and lowest SCORAD scores of 39.85 and 10.9 related to immunosupresant

Case presentation

Physical examination

Major criteria (4)	**Pruritus**
	Typical morphology and ditribution: fleksural lichenification or linearity in adults, facial and extensor involvement in infants and children
	Chronic or chronically-relapsing dermatitis
	Personal or family history of atopy (asthma, allergic rhinitis, atopic dermatitis)
Minor criteria (3)	Xerosis
	Ichtiyosis, palmar hyperlinearity, or keratosis pilaris
	Immediate (type 1) skin test reactivity
	Raised serum IgE
	Early age of onset
	Tendency toward cutaneous infections (especially S. Aureus and herpes simplex), or impaired cell-mediated immunity
	Tendency toward non-specific hand or foot dermatitis
	Nipple ecxema
	Chelitis
	Recurrent conjungtivitis
	Dennie-Morgan infraorbital fold
	Keratoconus
	Anterior subcapsular cataracts
	Orbital darkening
	Pityriasis alba
	Itch when sweating
	Intolerance to wool and lipid solvents
	Perifollicular accentuation
	Food intolerance
	Course influenced by environmental or emotional factors
	White dermographism or delayed blanch

Latest SCORAD March 2025: 18.9

- Diagnosis:
  - Recalcitrant AD

04

Case presentation

Follow-up

April 2025

- **Re-consulted to an ophthalmologist and was diagnosed with secondary glaucoma.**
- To minimize topical steroid side effects, the patient was instructed to use **crisaborole 2% cream as an alternative, no improvement of facial lesion.**

- **On follow-up**
  - **Ig E was elevated (203 IU/ml).**
  - Positive **prick test result of house dust mites** and **cockroaches.**

- **Further follow-up**
  - Despite **avoiding triggering allergens,** symptoms persisted; thus, additional patch tests were considered to **rule out the possibility that allergic contact dermatitis (ACD).**

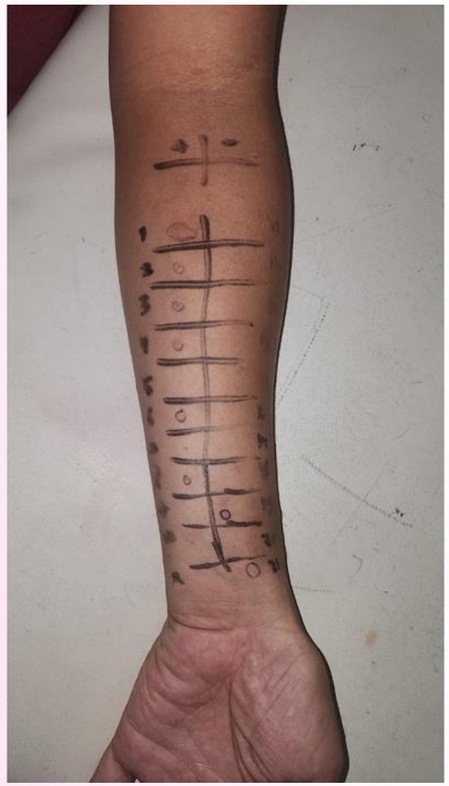


Figure 4. Positive prick test result of house dust mites (1) and cockroaches (2)

05

Case presentation

Follow-up

May 2025

- **Patch test result was positive for Nickel sulphate 5%**
  - Found in
    - **Facial masks**
    - **Household items:** clothesline poles used for drying the patient's helmets.

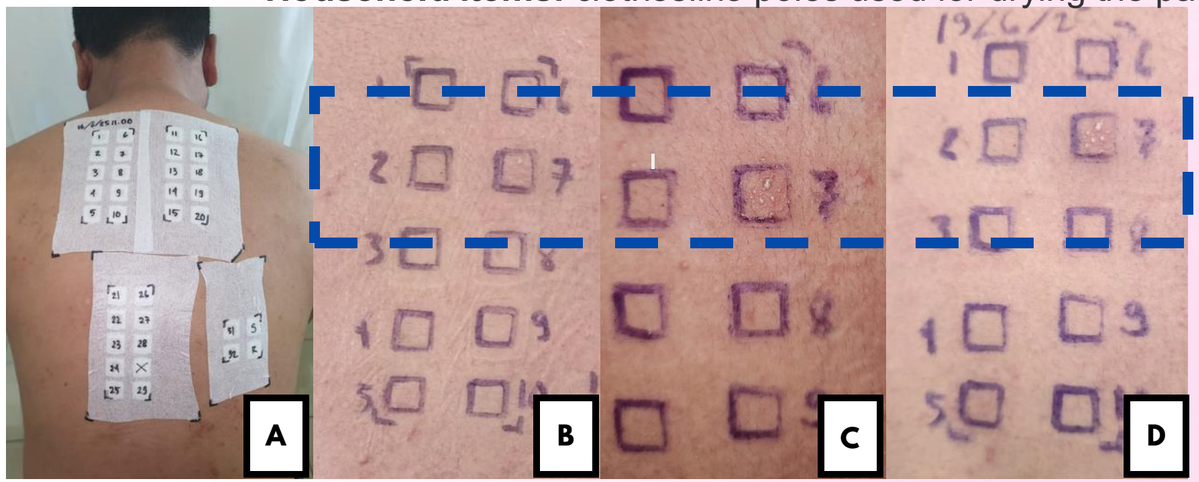


Figure 5. Positive patch test result of Nickel 5% (box 7) on baseline, 48 h(B), 72h(C), 96h(D)

Figure 6. Household items as source of allergens

- Patient is under **ongoing vigilant monitoring to avoid contact with materials containing Nickel.**

Figure 7. Facial lesions (October 2025) after allergens-avoidance

Discussion

Cause and consequence of atopic dermatitis.

Atopic skin increases **susceptibility to ACD**, as a **compromised skin barrier enhances permeability and potentially sensitizes** the skin to allergens.

AD is caused by **skewing towards Th-2** related pathways, in **chronic AD,** the pathophysiology shifts to **Th-1 dominant pathways**

Overlap with ACD, making the **emergence of ACD in chronic AD plausible**

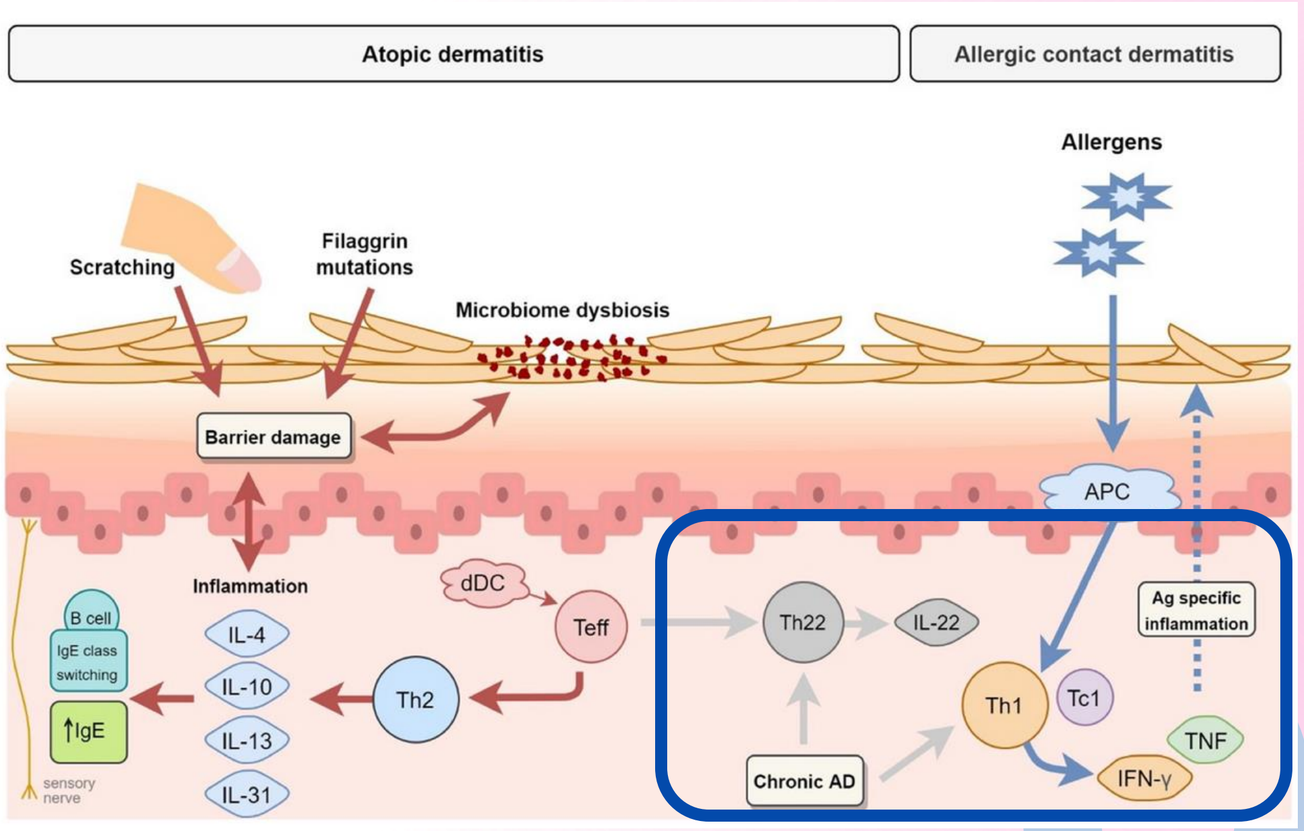


Figure 8. Overlapping mechanism of AD and ACD

Overlapping pathogenesis

Owen JL, Vakharia PP, Silverberg JI. Am J Clin Dermatol. 2018;19(3):293-302..
Yüksel, Y.T., Nørreslet, L.B. & Thyssen, J.P. Curr Derm Rep. 2021; 10: 67–76.

Discussion

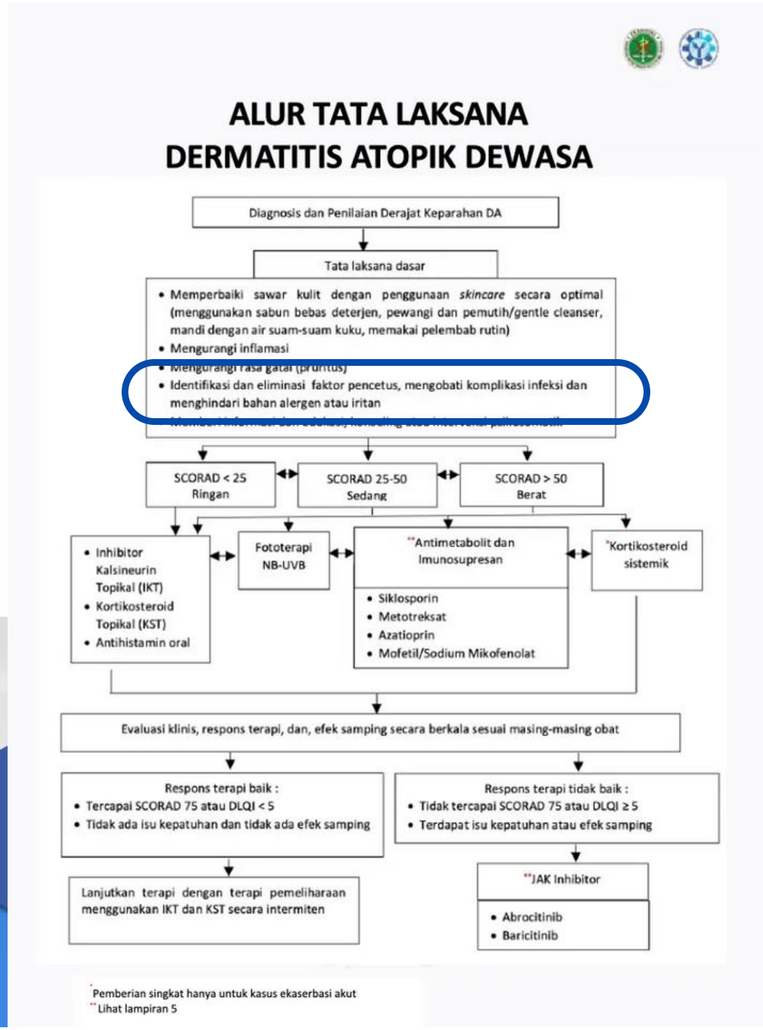
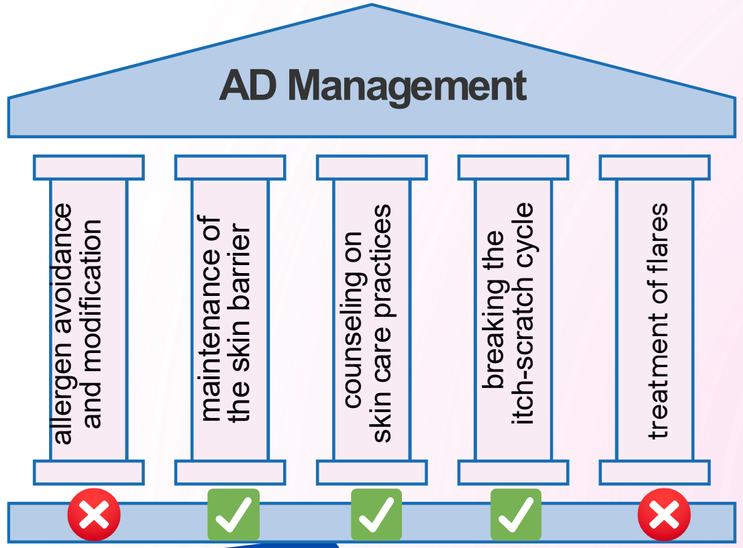


Figure 9. Indonesian guidelines for Adult AD



Moderate to severe AD:
Cyclosporine
Methotrexate

- Treatment according to step ladder approach of atopic dermatitis
- **Allergens identifications is pivotal, serve as basis of diagnosis and treatment pillars in AD**

Kelompok Studi Imunodermatologi dan Dermatosis Akibat Kerja (KSIDAK). Jakarta. 2024
Yüksel, Y.T, et al, J.P. Curr Derm Rep. 2021; 10: 67–76.

Conclusion

Allergic contact dermatitis **should be suspected in patients with chronic recalcitrant AD**, prompting **early suspicion** and **comprehensive diagnostic examinations, including patch testing**, to effectively **manage recalcitrant AD** and provide an individualized, allergen-avoidant strategy to improve patient outcomes.

Let's connect
Levina Ameline Moelyono
levina.ameline.moelyono@gmail.com
Dermatology and Venreology Residency Program
Facult of Medicine University of Indonesia

09