

Treatment Strategies for Atopic Dermatitis in Adults Who Exhibit Non-Allergic Comorbidities: Real-Life Data from a Tertiary Greek Hospital

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Introduction

Atopic dermatitis (AD) is the most common chronic inflammatory skin disease characterized by relapsing eczema with intense pruritus, which greatly impacts patients' quality of life [1]. While associations between AD and allergic conditions have been recognized for decades, numerous non-allergic comorbidities have also been identified [2]. However, treatment guidelines lack high-quality evidence regarding therapeutic algorithms which consider these associations [3]. This study presents real-life treatment data for selected AD comorbidities.

Findings

A retrospective observational study was conducted at the First Department of Dermatology and Venereology of

Aristotle University, Greece from April 2022 to May 2024 in compliance with the Declaration of Helsinki. This study was approved by the Bioethics Committee (Registry number: 3.651/18.01.2022). Written informed consent was obtained from adult participants (≥18 years) with clinically diagnosed moderate-to-severe AD according to Hanifin and Rajka criteria who had at least one non-allergic comorbidity and complete electronic medical records available for the study period. Non-qualifying patients were excluded. Data were available for 50 patients, 27 (54.0%) males and 23 (46.0%) females, with a mean age of 39 years. Patients were grouped according to their comorbid condition. The first group consisted of those who exhibited metabolic and cardiovascular diseases (CVD), 28 patients (56.0%) (obesity N=10, dyslipidemia N=5, type 2 diabetes N=2, hypertension N=6, peripheral and coronary artery disease N=3, deep vein thrombosis N=1, atrial fibrillation N=1). The second

group had immune-related disorders: 19 patients (38.0%) (alopecia areata N= 8, vitiligo N=2, chronic urticaria N=2, rheumatoid arthritis N=4, systemic lupus erythematosus N=1, psoriasis N=1, inflammatory bowel disease N=1), and the third had bone health conditions: three patients (6.0%) (osteoporosis N=2, osteoporotic bone fractures N=1). Treatment decisions were made using SCORAD (Scoring Atopic Dermatitis), EASI (Eczema Area and Severity Index), and IGA (Investigator's Global Assessment scale) scoring systems, considering age, sex, and comorbidities through multidisciplinary consultation when appropriate. For moderate-to-severe disease, phototherapy, predominantly narrowband UVB, and less frequently UVA1, administered three times per week for six months, was the most commonly used treatment in CVD patients. For relapsing disease, dupilumab was chosen due to its safety profile. For immune-mediated disorders, biologics and small molecules were prescribed more frequently. In the bone health group, systemic corticosteroids and cyclosporine were excluded due to negative bone effects. Targeted therapies were initiated more frequently. Systematic agents are summarized in Table 1. All treatments were combined with topical mild-to-moderate corticosteroids. No serious adverse event was identified during the 26-month follow-up.

Conclusion

Our findings align with recent epidemiological studies demonstrating high prevalence of CVD and autoimmune comorbidities in AD patients, reflecting AD's systemic inflammatory nature [4]. Dermatologists' choices in our study are greatly dependent on disease activity and comorbid conditions. While international recommendations emphasize systemic immunosuppression for severe AD, our real-world data show a cautious, personalized approach in CVD patients. The predominant use of phototherapy reflects safety considerations in clinical practice. The use of JAK inhibitors for autoimmune conditions in our cohort is consistent with recommendations [5]. Our preference for dupilumab across all comorbidity groups aligns with real-world effectiveness studies regarding cardiovascular safety [6]. Future studies are needed to establish evidence-based treatment algorithms for AD patients with specific comorbidity profiles.

Ethical Approval: This study was approved by the Bioethics Committee of the Medical School of Aristotle University of Thessaloniki, Greece (Registry number: 3.651/18.01.2022). The research process complied with the Declaration of Helsinki. Written informed consent was obtained from all patients.

Table 1. Treatment Choices for Patients Exhibiting Non-Allergic Comorbidities.

Treatment	Dose	Metabolic and cardiovascular comorbidities Percentage % ^a (N) ^b	Immune-mediated comorbidities Percentage % (N)	Osteoporosis Percentage % (N)
Phototherapy				
NB-UVB ^c	2 or 3 times per week	57.1% (16)		
UVA1 ^d	2 or 3 times per week	17.8% (5)		
Systemics				
Corticosteroids	0.35-1 mg/kg per day		10.5% (2)	
Cyclosporine (CyA)	2.5-5 mg/kg per day	3.6% (1)	21.1% (4)	
Methotrexate (MTX)	5-15 mg per week	3.6% (1)		
Azathioprine (AZA)	1-3 mg/kg per day		5.3% (1)	
Dupilumab	600 mg s.c day 1 followed by 300 mg Q2W	17.9% (5)	10.5% (2)	66.7% (2)
Baricitinib	4 mg or 2mg per day		26.3% (5)	
Upadacitinib	30 mg or 15 mg per day		26.3% (5)	
Abrocitinib	200 mg or 100 mg per day			33.3% (1)

a. Percentage (%): percentage of patients receiving this treatment from each group; b. (N): number of patients receiving this treatment.; c. NB-UVB: narrow-band ultraviolet B.; d. UVA1: ultraviolet A1.

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