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Concurrent Dual Biologic Therapy for Complex Treatment-Refractory Dermatologic Disease: A Single-Center Retrospective Analysis

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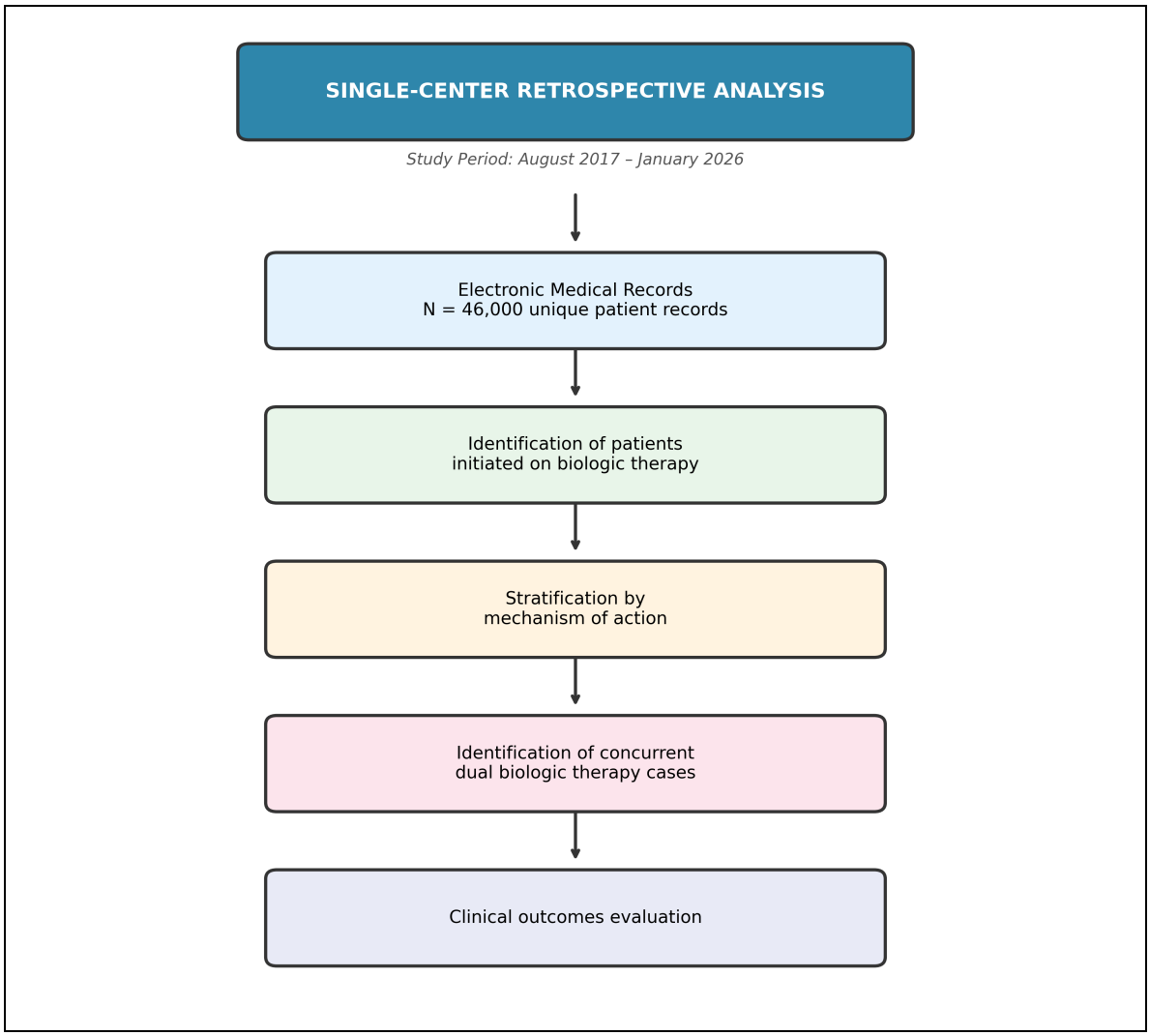
Introduction

Biologic therapies have transformed the management of inflammatory dermatoses. However, concurrent dual biologic therapy may be required when patients have coexisting systemic conditions requiring distinct immunomodulation. The complexity is significantly increased when two biologic response modifiers (BRMs) are used concurrently, or when an additional BRM is administered to mitigate adverse effects caused by the primary therapeutic BRM in situations where discontinuation of the culprit agent is not feasible due to clinical indications. Evidence guiding such combination regimens remains limited. We aimed to determine the incidence and outcomes of concurrent dual biologic therapy in a real-world dermatology practice.

Materials and Methods

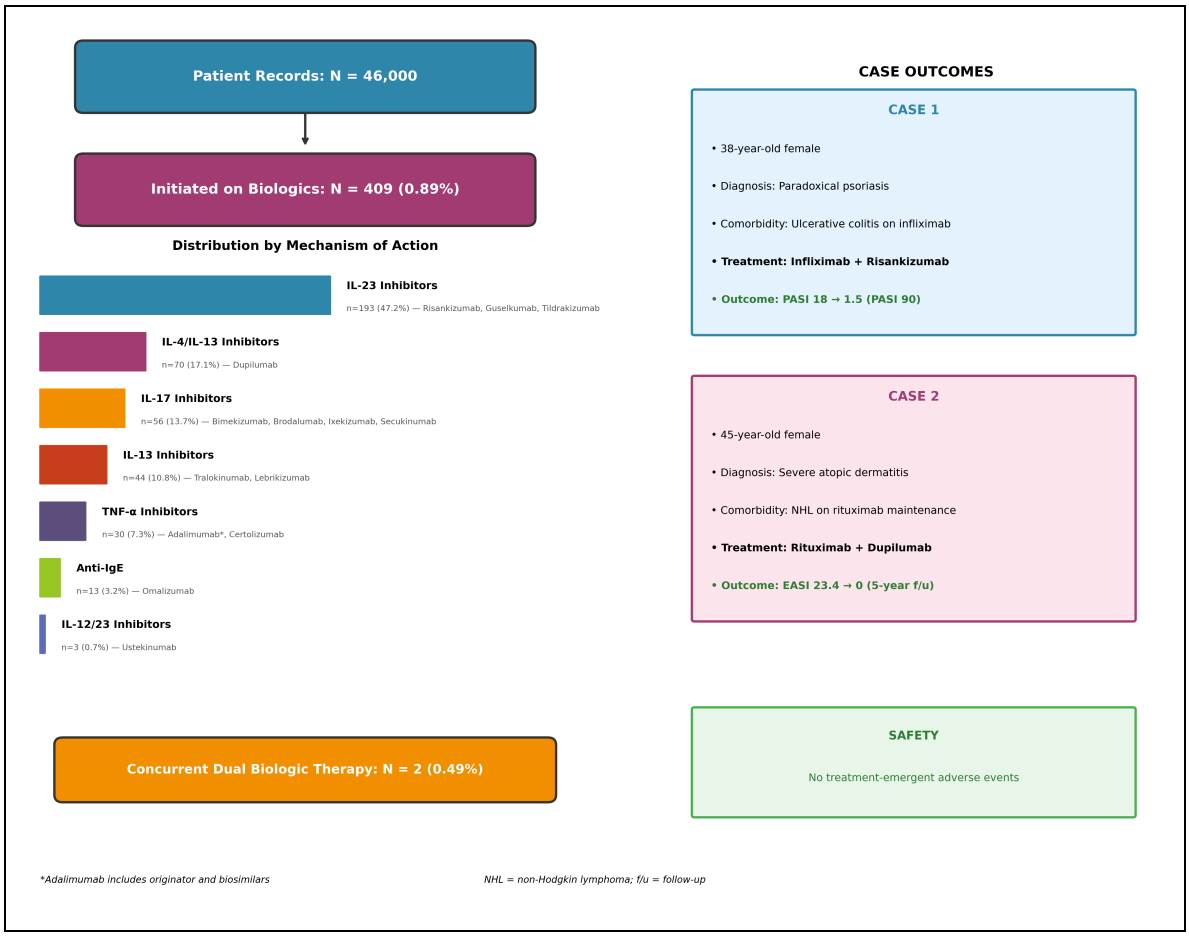
We conducted a single-center retrospective analysis of 46,000 unique patient records at the outpatient dermatology practice from August 2017 to January 2026. All patients initiated on biologic therapy were identified and stratified by mechanism of action (IL-23 inhibitors, IL-4/IL-13 inhibitors, IL-17 inhibitors, IL-13 inhibitors, TNF-α inhibitors, anti-IgE, and IL-12/23 inhibitors). Cases of concurrent dual biologic therapy were identified, and clinical outcomes were evaluated.



Study design. Single-center retrospective analysis of 46,000 patient records (August 2017 – January 2026) with stratification by mechanism of action and identification of dual biologic therapy cases.

Results

A total of 409 patients (0.89%) were initiated on biologic therapy across the following categories: IL-23 inhibitors (n=193, 47.2%; risankizumab, guselkumab, tildrakizumab), IL-4/IL-13 inhibitors (n=70, 17.1%; dupilumab), IL-17 inhibitors (n=56, 13.7%; bimekizumab, brodalumab, ixekizumab, secukinumab), IL-13 inhibitors (n=44, 10.8%; tralokinumab, lebrikizumab), TNF-α inhibitors (n=30, 7.3%; adalimumab and biosimilars, certolizumab), anti-IgE (n=13, 3.2%; omalizumab), and IL-12/23 inhibitors (n=3, 0.7%; ustekinumab). Two cases (0.49%) of concurrent dual biologic therapy were identified. Case 1: A 38-year-old woman with ulcerative colitis developed paradoxical psoriasis on infliximab; concurrent risankizumab achieved PASI 90 (PASI 18→1.5) with no adverse events. Case 2: A 45-year-old woman with severe atopic dermatitis on rituximab maintenance for non-Hodgkin lymphoma achieved complete clearance (EASI 23.4→0) with dupilumab over 5 years of co-therapy without treatment-emergent adverse events.



Patient flow and outcomes. Of 409 patients initiated on biologics across 7 MOA categories, IL-23 inhibitors were most prescribed (47.2%). Two patients (0.49%) received dual biologic therapy, both achieving excellent disease control (PASI 90; EASI 0) without adverse events.

Conclusions

Concurrent dual biologic therapy is rare in clinical practice (<0.5% of biologic-treated patients) but may be a viable strategy for managing complex, treatment-refractory dermatologic disease when monotherapy is insufficient and discontinuation of essential systemic therapy is not feasible. In carefully selected patients with multidisciplinary oversight, dual biologic regimens can achieve durable disease control with acceptable safety profiles.