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Efficacy and safety of mogamulizumab in Sézary syndrome with concomitant Crohn's disease

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Ethics approval and consent to participate: all procedures were conducted in accordance with the ethical standards of the institution and the principles outlined in the Declaration of Helsinki. The patient provided written informed consent to participate.

Consent for publication: the patient provided written informed consent for the publication of this case report and any accompanying clinical data and images.

Availability of data and materials: the data that support the findings of this study are available on request from the corresponding author.

Dear Editor,

Mogamulizumab is a humanized, defucosylated monoclonal antibody targeting CC chemokine receptor 4 (CCR4), expressed on malignant T cells in cutaneous T-cell lymphomas (CTCL), particularly mycosis fungoides and Sézary syndrome.[1] By enhancing antibody-dependent cellular cytotoxicity, mogamulizumab selectively depletes CCR4-positive malignant lymphocytes and has demonstrated significant clinical activity in advanced CTCL, including in patients refractory to multiple prior therapies.[2] Sézary syndrome is an aggressive leukemic variant of CTCL characterized by erythroderma, lymphadenopathy, and circulating malignant T cells, often requiring systemic therapies with careful monitoring for adverse events.[3] Mogamulizumab has shown superior progression-free survival compared with vorinostat in relapsed or refractory CTCL, leading to its approval in this setting.[4]

The safety profile of mogamulizumab includes immune-mediated events, particularly involving the skin and gastrointestinal tract, such as rash, colitis, and other autoimmune-like complications.[1] Recently, two cases of inflammatory bowel disease (IBD) following mogamulizumab treatment were reported; in both cases, diarrhea persisted after drug discontinuation, and histology confirmed autoimmune colitis, suggesting that mogamulizumab may trigger or unmask autoimmune gastrointestinal disease even in patients without prior autoimmunity.[5]

We report the case of an 85-year-old woman with long-standing Crohn's disease and refractory Sézary syndrome who was successfully treated with mogamulizumab without exacerbation of her intestinal disease. The patient had a decades-long history of primary Crohn's disease affecting the left colon with substenotic lesions. Her prior treatments included systemic corticosteroids, immunosuppressants, infliximab (complicated by herpes zoster), thiopurines until 2015, and subsequent mesalazine monotherapy. Despite persistent endoscopic and radiologic signs of chronic inflammation and residual stenosis, she remained clinically stable, with regular bowel movements, no rectal bleeding, and stable inflammatory markers.

In November 2023, she developed severe, intractable pruritus involving the hands and feet, diffuse erythema, desquamation, and nail dystrophy. Skin biopsy revealed epidermotropism of atypical $CD4^+$ T lymphocytes with cerebriform nuclei and a dense band-like dermal infiltrate. Flow cytometry showed expansion of $CD3^+$ and $CD3^+CD4^+$ T cells, a marked reduction of $CD8^+$ T cells, a CD4/CD8 ratio of 28.2, and abnormal $CD3^+CD4^+CD7^-$ (83.9%) and $CD3^+CD4^+CD26^-$ (85.9%) populations. Total-body CT excluded visceral involvement. A diagnosis of Sézary syndrome, stage IVA (T4NxM0B2), was established.

She received sequential therapy with methotrexate (12.5 mg weekly) and pegylated interferon α-2a (180 µg weekly), with persistent disease and severe pruritus. Mogamulizumab was initiated in February 2025 at 1 mg/kg intravenously on days 1, 8, 15, and 22 of the first 28-day cycle, followed by days 1 and 15 of subsequent cycles. The patient experienced rapid and marked improvement in pruritus, erythema, desquamation, and nail dystrophy (Figure 1 a-d). Importantly, her Crohn's disease remained clinically stable, without worsening bowel habits, abdominal pain, or inflammatory markers, and no gastrointestinal immune-related adverse events occurred. Follow-up flow cytometry in October 2025 demonstrated a significant reduction of malignant circulating T cells: $CD3^{+}CD4^{+}CD7^{-}$ cells decreased from 83.9% to 14.67% and $CD3^{+}CD4^{+}CD26^{-}$ cells from 85.9% to 12%. At the time of writing, the patient remains in remission from Sézary syndrome and without relapse of intestinal disease.

Mogamulizumab-associated gastrointestinal toxicity has been increasingly reported, including *de novo* autoimmune colitis and IBD-like syndromes, sometimes persisting after drug discontinuation.[5] This has been attributed to depletion of CCR4-expressing regulatory T cells (Tregs), crucial for maintaining mucosal immune tolerance. Interestingly, in our patient with long-standing Crohn's disease, mogamulizumab did not trigger disease reactivation. Several factors may explain this outcome. First, the patient's Crohn's disease was clinically quiescent at treatment initiation, suggesting a stable immune equilibrium. Second, CCR4 expression is predominant in skin-homing T cells and malignant Sézary cells, while gut-homing lymphocytes rely on different chemokine receptors and integrins, such as CCR9 and α4β7, potentially limiting direct effects of mogamulizumab on intestinal immune populations.[6,7] Ongoing mesalazine therapy, age-related immune senescence, and a long history of disease adaptation may have further mitigated intestinal immune activation. Mogamulizumab may also preferentially deplete pathogenic effector T-cell clones rather than inducing a generalized pro-inflammatory state in the gut.

This case suggests that pre-existing IBD does not necessarily constitute an absolute contraindication to mogamulizumab, although careful patient selection and close monitoring are essential. Further studies are needed to better define its safety and long-term gastrointestinal outcomes in patients with concomitant autoimmune gastrointestinal disorders.

References

1. Fernández-Guarino M, Ortiz P, Gallardo F, Llamas-Velasco M. Clinical and Real-World Effectiveness of Mogamulizumab: A Narrative Review. Int J Mol Sci 2024;25:2203.

2. Choi SB, Lee HT, Gu N, et al. Structural Insights into the ADCC Mechanism and Resistance of Mogamulizumab, a First-in-Class Anti-CCR4 Therapy for Cutaneous T Cell Lymphoma. Int J Mol Sci 2025;26:5500.

3. Martinez XU, Di Raimondo C, Abdulla FR, et al. Leukaemic variants of cutaneous T-cell lymphoma: Erythrodermic mycosis fungoides and Sézary syndrome. Best Pract Res Clin Haematol 2019;32:239-52.

4. Kim YH, Bagot M, Pinter-Brown L, et al; MAVORIC Investigators. Mogamulizumab versus vorinostat in previously treated cutaneous T-cell lymphoma (MAVORIC): an international, open-label, randomised, controlled phase 3 trial. Lancet Oncol 2018;19:1192-204. Erratum in: Lancet Oncol 2018;19:e581.

5. Blanchard G, Blanchard M, Bernard P, et al. Potential mogamulizumab-associated inflammatory bowel disease in cutaneous T-cell lymphoma management. JAAD Case Rep 2024;54:23-6.

6. Kunkel EJ, Boisvert J, Murphy K, et al. Expression of the chemokine receptors CCR4, CCR5, and CXCR3 by human tissue-infiltrating lymphocytes. Am J Pathol 2002;160:347-55.

7. Campbell JJ, Haraldsen G, Pan J, et al. The chemokine receptor CCR4 in vascular recognition by cutaneous but not intestinal memory T cells. Nature 1999;400:776-80.

Figure 1. Clinical evolution of dorsal hand and nail involvement during mogamulizumab therapy. **a**, **b**) Baseline presentation (February 2025) showing diffuse erythema and desquamation of the dorsal hands associated with severe onychodystrophy affecting all fingernails. **c**, **d**) After approximately one year of mogamulizumab treatment (January 2026), complete normalization of the nail plates is observed, with markedly reduced erythema of the dorsal hands, consistent with a sustained clinical response.