

Efficacy of Adsorptive Cytapheresis in the Treatment of Inflammatory Bowel Disease: a case series

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Introduction

Adsorptive cytapheresis (AC), or leukocytapheresis, is a therapy where a patient's blood passes through a device containing a column that selectively adsorbs activated monocytes, granulocytes, and lymphocytes. The remaining leukocytes and blood components return to the patient.

AC is a non-pharmacological treatment for Inflammatory Bowel Diseases (IBD), including, Ulcerative Colitis (UC) and Crohn's Disease (CD). The 2023 American Society for Apheresis guidelines classify AC as Category II, 1B for UC and Category III, 1B for CD.

While the exact cause of IBD remains unclear, inflammatory cytokines like TNF- α are known to contribute, making them key treatment targets.

Since these cytokines originate from leukocytes, leukocytapheresis helps reduce their activation.

When activated leukocytes are depleted, the patient's immune system can readjust to normal function or at least improve the efficacy of pharmacological therapy.

Since AC removes elements from the body, it has not been associated with dependency, refractoriness, or safety concerns.

Methods

Case series of 7 patients affected by UC. Every one of them was treated by 7 to 15 times in a time range of 2-36 months (2023-2025).

The duration of each individual treatment is approximately one hour, using the Leucapher[®] device and LA 25[®] filter at a blood flow rate of 30 ml/min.

Results

All patients exhibited good clinical response, with a significant improvement in symptoms as a reduction in diarrheal episodes, with the restoration of normally formed stools, indicating an improvement in intestinal function. Notably, in several cases, disease remission was observed, with symptom resolution and quality of life improvement.

A particularly significant aspect emerging from the study was that RBC values remained virtually unchanged throughout the entire treatment period, highlighting the absence of anemia in treated patients (Figure 1).

This finding further reinforces the safety of AC as a therapeutic approach with no relevant adverse effects.

Conclusion

These results suggest that AC may represent a safe and effective therapeutic option for patients with UC, particularly for those who do not respond adequately to conventional pharmacological therapies or who wish to reduce the use of immunosuppressive drugs.