

## **EYE DROPS FROM CORD BLOOD PLATELET LYSATE: POTENTIAL NEW TREATMENT FOR SEVERE OCULAR SURFACE DISORDERS IN GVHD PATIENTS**

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**INTRODUCTION:** Graft-versus-Host Disease (GvHD) is a complication of allogeneic hematopoietic stem cell transplantation (HSCT), caused by the recognition of host tissue by the donor's immunocompetent cells. The ocular surface is frequently affected, with damage often resistant to conventional therapies. Cord blood platelet lysate eye drops (UCB-PL eye drops), due to its regenerative properties, represents a promising therapy for severe ocular manifestations of GvHD. This study evaluated its safety and efficacy in patients with advanced ocular involvement.

**METHODS:** The study was conducted on 26 patients residing in Sicily, aged between 25 and 46 years.

The patients were divided as follows:

Group I: severe dry eye disease (DED) and filamentous keratitis (n = 5)

Group II: severe blepharokeratoepitheliopathy (n = 12)

Group III: corneal ulcers (n = 9)

UCB-PL eye drops were obtained from human cord blood units, produced by the Sciacca Cord Blood Bank, and administered six times daily.

**RESULTS:** Treatment with UCB-PL eye drops produced improvements in subjective symptoms and clinical parameters in all groups. In Group I, the Ocular Surface Disease Index decreased by 45% and tear production increased by 30%. In Group II, a 75% reduction in neovascularization and a mean increase in BUT of 3.5 seconds were observed. In Group III, 88.8% of patients showed a >50% reduction in ulceration at 90 days, with complete healing in seven cases. Improvements in Best Corrected Visual Acuity (BCVA) were seen in six patients in Group II and four patients in Group III, with a mean gain of 1.2 lines. Ocular pain and inflammation resolved within 90 days, without adverse events, confirming the safety and efficacy of the treatment.

**CONCLUSION:** UCB-PL eye drops are a safe and effective treatment for severe ocular GvHD, improving symptoms, clinical parameters, and quality of life, with application in acute ocular, mucosal, and cutaneous GvHD.