

HOMOLOGOUS PLATELET GEL AS A REGENERATIVE THERAPY FOR ORAL MUCOSITIS IN PATIENTS UNDERGOING BONE MARROW TRANSPLANTATION

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BACKGROUND. Allogeneic stem cell transplantation is a complex procedure often associated with significant clinical challenges. One of the most frequent complications following bone marrow transplantation (BMT) is oral ulceration and inflammation, which negatively affect the quality of life of affected patients.

PURPOSE. This study aims to evaluate the therapeutic safety, and regenerative, anti-inflammatory properties of homologous platelet gel (PG) as a next-generation treatment for oral mucositis (OM) in patients undergoing BMT or chemotherapy.

METHODS. This study evaluates the efficacy of PG obtained from adult blood donors for the treatment of OM in 11 patients presenting with post-BMT OM and in 2 patients with post-chemotherapy OM. The 13 patients (9 males and 4 females, mean age 54 years, range 21–75) received 15.38 PG treatments (2/days) as medium in 4.92 days. Each PG contains 20 mL of platelet lysate activated prior to treatment by adding calcium gluconate. 53.84% of the patients received 8 treatments, 38.46% received 16 treatments, and 7.69% received 24 treatments.

RESULTS. The treatment was well tolerated by all patients and no adverse events were recorded, with complete resolution by the end of therapy (4.92 days). At baseline, the cohort presented with grade 3 OM in 10 cases and grade 2 in 3 cases. Therapeutic efficacy resulted independent of both the severity of OM and the type of transplant (7 allogeneic, 6 autologous).

CONCLUSIONS. PG can be useful in the treatment of OM in patients undergoing BMT because it drastically reduces lesion healing times compared to conventional therapies. Literature confirms that PG promotes tissue regeneration, provides analgesia, and reduces inflammation, thereby accelerating lesion resolution and improving quality of life.