

## USE OF PLATELET-RICH PLASMA IN BURN PATIENTS

**Chornopyshchuk Roman\*<sup>1,2</sup>, Grebeniuk Dmytro<sup>1,2</sup>, Nazarchuk Oleksandr<sup>1,2</sup>, Burkovskyy Mykola<sup>2</sup>, Kravchuk Vitalii<sup>1</sup>, Sidorenko Ludmila<sup>3</sup>, Rotaru Ludmila<sup>3</sup>, Chornopyshchuk Nataliia**

<sup>1</sup>Municipal Non-profit Enterprise «Vinnytsya Regional Clinical Hospital Vinnytsya Regional Council», Vinnytsya, Ukraine.

<sup>2</sup>National *Pirogov* Memorial Medical University, Vinnytsya, Ukraine.

<sup>3</sup> State University of Medicine and Pharmacy “*Nicolae Testemitanu*”, Chisinau, Republic of Moldova.

**Background.** The use of platelet-rich plasma remains a promising area of medicine. The use of plasma, enriched with platelets, in the complex management of patients with burns, is of particular interest, especially in cases of thermal injuries and combined injuries.

**Purpose.** to analyze the feasibility and effectiveness of injectable administration of platelet-rich plasma in patients with deep burns injuries.

**Materials and methods.** 22 patients with partial thickness and full thickness deep burn injuries with an area of 15-20 % of the body surface and localization in the area of the lower limbs participated in the study. Local treatment of 12 patients in the observation group at the stage of wound preparation after radical necrosectomy for autodermoplasty included a daily change of bandages impregnated with a 0.02 % decamethoxin-based antiseptic solution. 10 patients of the main group were additionally injected with autologous plasma enriched with platelets during a similar period of treatment. The examination of the patients included a visual assessment of the condition of the wounds, the study of their microbial contamination, as well as the results of the skin grafting.

**Results.** The results of the statistical analysis show a significant reduction in the term of granulation formation of the affected tissue in patients of the main group ( $p \leq 0.05$ ), whose wounds met the criteria of readiness for skin grafting. In patients of the observation group, a slower marginal epithelization, a longer period of cleaning of wounds from pathological layering with more intense wound secretions, as well as a higher microbial contamination of the wound surface were observed. Regarding the agents of microbial contamination, no significant difference between the studied groups was established ( $p > 0.05$ ), just as the basic nature of the identified microbiota did not differ.

**Conclusions.** The obtained results convincingly confirm the effectiveness of the injection of autologous platelet-rich plasma in patients with deep thermal injuries who, in addition to necrosectomy, need the enhancement of preparation of wounds to restore the integrity of the skin by grafting.

**Keywords:** platelet-rich plasma, burns, effectiveness.