Effects of platelet rich plasma on ureteroneocystostomy in rabbits

Aibolat Smagulov, Nadiar Mussin

Department of Transplantation, West Kazakhstan Medical University, Aktobe Medical Center, Aktobe, Kazakhstan

Background: The aim of this study is to study the role of platelet-rich plasma (PRP) on the healing of ureteroneocystostomy (UCA) in a rabbit model.

Methods: A total of 14 adult male New Zealand rabbits (*Oryctolagus cuniculus*) were divided into two groups: group I (n=7), standard anastomosis without PRP; group II (n=7), standard anastomosis with PRP. The animals were observed for 7 days, then killed. The parameters of the study were complications of anastomosis, evaluation of hydroxyproline and histopathological evaluation of anastomoses.

Results: The level of hydroxyproline was statistically higher in the PRP group than in the control group ($P<0.05$). Histological evaluation of the anastomoses showed almost complete healing in all animals. The average histological parameters of the animals in the groups did not differ.

Conclusions: According to our results, we assume that the use of PRP improves the healing of the anastomosis due to the level of hydroxyproline and a decrease in the inflammatory response. Further clinical studies are needed to confirm our hypothesis.

Corresponding author: Aibolat Smagulov

E-mail: smagulov.aibolat@gmail.com

© The Korean Society for Transplantation

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.