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Comparison of the effect of stem cell, platelete rich plasma and ovarium follicular fluid on burn stasis zone (Experimental study)

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Öz

Objective: The basic aim in the treatment of second-degree burns is to prevent progressive cell death, and so treatments are directed at the zone of stasis. In this study, We were aimed to investigate the healing effects of using Mesenchymal Stem Cells (MSCs), Ovarian follicular fluid (OFS) and Platelet-rich plasma (PRP) on burn stasis zone in an experimental burn model.

Method: Forty rats were divided randomly into four groups. Burns were created in each group according to the comb burn model. The control group received no treatment; the mesenchymal stem cell [MSC] group received MSC; the platelet-rich plasma [PRP] group received PRP; and the ovarian follicular fluid [OFF] group received OFF subcutaneously on days 1, 3 and 5. On days 1 and 21, all rats were photographed and the burn sites were calculated. At the end of day 21, all rats were sacrificed, the dorsum containing the created burns were excised, and the epithelialization, collagen amount, fibroblast density, inflammatory cell density and VEGF amounts were evaluated histopathologically.

Results: The groups were assessed based on the burn site healing rate and histopathological scoring. Healing was faster in the MSC group [$p < 0.005$], PRP group [$p > 0.005$] and OFS group [$p < 0.005$] than in the control group. When the treatment groups were compared with each other, the best healing was observed in the MSC, PRP and OFF groups, respectively.

Conclusions: MSC, PRP and OFF were found to have a positive effect on burn healing, with MSC being the most efficient method among the three, followed by PRP and OFF, respectively, which were found to provide a faster healing than the control group.

Anahtar Kelimeler

[Burn](#), [Mesenchymal stem cells](#), [Platelet-rich plasma](#), [Ovarian follicule fluid](#)

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