

## Halaman Abstrak

### The Effectiveness of PRP Injection Giving Pre and Post Elevation of the Extended Random Flap on Rat Skin

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**Background:** Defect closure using flap today is increasing. But the closure of the defect with a random skin flap is constrained by the extent of the defect area, so the ideal ratio of skin flap is not reached. Several studies have shown the benefits of administration of PRP (Platelet Rich Plasma) in random skin flap. The purpose of this study is to compare the effect of PRP injection given before flap elevation, after flap elevation and control after extended random skin flap procedures in mice.

**Methods:** This research is experimental with randomized post test only control group design with a follow-up 14 days (n = 27, divided into 3 treatment groups) that compare the effectiveness of PRP injection 24 hours prior to the elevation of the flap, after the elevation of the flap, and control in the extended random skin flap in rats. Random skin flap is made in the ratio 1: 5 on the abdominal skin of rat. Then the measurement of viable area of skin were observed on days 1, 7 and 14.

**Results:** There were significantly increased viability of random skin flap on the group with PRP injection 24 prior flap elevation compared to other group of treatment. The average of viability on day first  $0.39 \pm 0.13$ ;  $0.42 \pm 0.34$ ;  $0.62 \pm 0.14$ . On day 7<sup>th</sup>  $0.24 \pm 0.13$ ;  $0.36 \pm 0.26$ ;  $0.62 \pm 0.12$ . On day 14<sup>th</sup>  $0.16 \pm 0.15$ ;  $0.28 \pm 0.22$ ;  $0.60 \pm 0.11$ .

**Conclusion:** Injection of PRP on extended random flap on rat skin flap 24 hours before flap elevation increase viability of the flap compared to control group and group which receive PRP injection on extended random flap on rat skin after elevation of the flap. Viability increased due to angiogenesis stimulation after PRP injection.

**Keyword:** Platelet Rich Plasma, Flap Survival, Extended Random Skin Flap