The effect of PRF on the osseointegration

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**Background:** Recently the research of implant dentistry is focused on reducing the healing time of implant and improving the bone quality. It has been proved that Rehmannia glutinosa Libosch has anti-inflammatory action and not only stimulates the proliferation and activity of osteoblast but inhibits the generation and activity of osteoclast, and therefore helps healing and maintenance of bone. Rehmannia glutinosa Libosch is the main component of PRF.

**Aim/Hypothesis:** The aim of this study was to develop and document a simple, safe, and effective pharmacological protocol for promoting success rate of implant.

**Material and Methods:** Thirty six specially designed implants were installed in the tibiae of rats. The group medicated with PRF was the test group, and that without one was the control group. Then the implant stability was measured by Periotest. Bone mineral density measurement and histological analysis were conducted at the 1st, 2nd and 4th week.

**Results:** There was no statistically significant difference in Periotest® values between test group and control group at the 1st and 2nd week, however on the 4th week there was significant difference. The result corresponded with bone mineral density in positive correlation. Histological evaluation also showed difference in osseointegration on the 4th week between the groups.

**Conclusions and Clinical Implications:** The values of bone density and implant stability in the test group was higher than those in the control group. Clinically it would be helpful to medicate PRF to the patients for a long period of time after implantation to bring out higher bone density and better implant stability.