

## Bone regeneration with PRP growth factors in association with filling biomaterials: a case report

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**BACKGROUND:** PRP (Platelet Rich Plasma) is a reservoir of growth factors (PDGF, TGF- $\beta$ , IGF-1, FGF, EGF), which can stimulate angiogenesis, macrophage chemotaxis, fibroblast proliferation and collagen synthesis.

**AIM:** The aim of the present study is to demonstrate the short-term and long-term effectiveness of PRP, in association with filling biomaterials, for bone regeneration of atrophic areas in implantology.

**MATERIALS AND METHODS:** We present the case of a 40-year-old female patient with a fixed prosthesis. In one surgery, we avulsed tooth 15, performed Summer's crestal sinus lift by placing PRP-imbibed fibrin sponges and then placed 2 implants; PRP was obtained by sampling autologous blood in sterile test tubes without anticoagulant and by centrifugation.

**RESULTS:** Postsurgical orthopantomography (OPT) showed an hyper-transparent sinus (empty), indicating the complete absence of bone grafts and only the presence of PRP-imbibed fibrin sponges; OPT and CT scan performed 6 months after surgery revealed a radiographic integration and an increased density of the perimplant bone.

**DISCUSSION AND CONCLUSIONS:** PRP, being rich in growth factors, associated with fibrin sponges which substantially act as a scaffold, has allowed to achieve a satisfying neo-apposition and bone regeneration, as proved by long-term radiological examinations.

The combined use of PRP, associated with filling biomaterials, is certainly a very interesting technique, which deserves long-term clinical investigations and prospective, experimental studies on a statistically-significant number of patients, with strict and well-defined inclusion criteria and without statistic bias.

### REFERENCES

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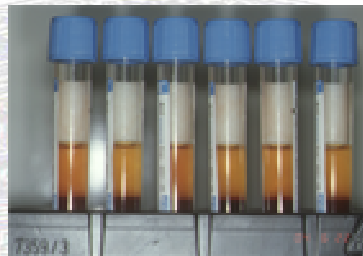


Fig.1 PRP obtained after centrifugation

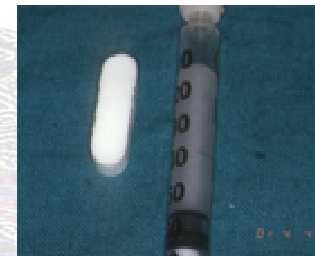


Fig.2 Dextran Fisiograft sponge and gel

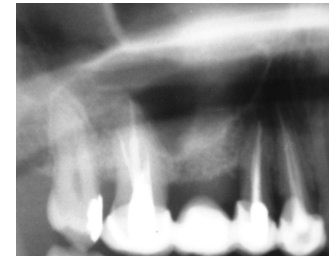


Fig.3 OPT detail



Fig.4 Incisions and detachment



Fig.5 Small lift and implants



Fig.6 Postsurgical OPT(hyper-transparency)



Fig.7 OPT and CT scan 6 months after surgery (increased density of the perimplant bone)

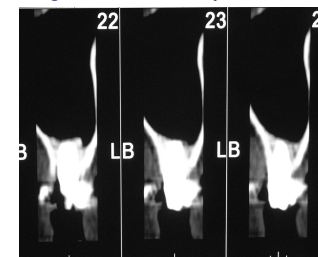


Fig.8 Zirconia ceramic single crowns