Role Of Platelet Rich Fibrin In Fistula Healing After Tooth Extraction

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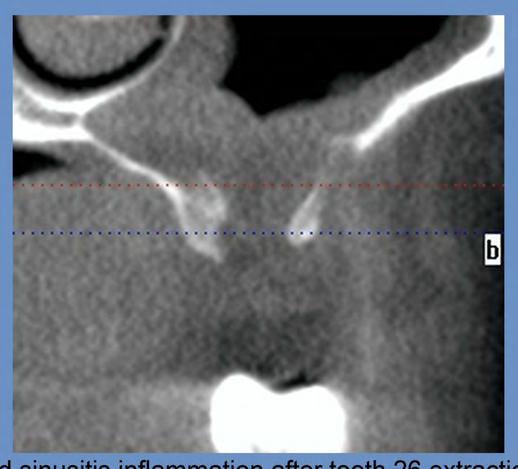
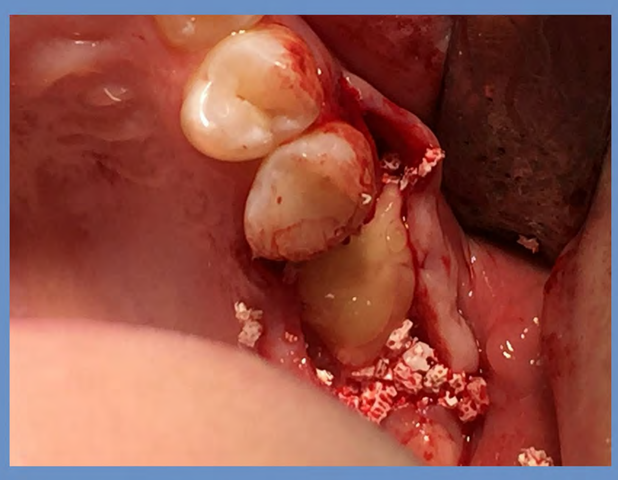
Platelet concentrate fibrin is an evolution of the fibrin glue widely used in the oral surgery. The principle of this new technology is based on concentrating platelets and growth factors in a plasma solution, and activating them in a fibrin gel in order to improve the healing of surgical wounds. This platelet suspension, defined as platelet-rich plasma (PRP), as the platelet concentrate used in transfusional medicine, is the precursor of another autologous derivated, the platelet-rich fibrin (PRF), a solid fibrin-based biomaterial. Platelet rich fibrin (PRF) is a fibrin matrix in which platelet cytokines, growth factors, and cells are trapped and may be released after a certain time and that can serve as a resorbable membrane. It can be very useful during surgical procedures such as fistula closing.

27 years old women, came to Oral Surgery Department with active oro-antral communication which has been noticed after tooth 26 extraction. Patient reported periodically purulent discharge from place where buccal roots were removed. CBCT reviled bone defect around socket of tooth number 26 with limited sinusitis inflammation. After clinical and radiological examination decision about using PRF to close fistula was taken. Blood was taken from patient and centrifuged to get PRF. After local anesthetic, full mucocal flap was mobilzed around fisutula. Wound was cleaned and all inflamed tissue were removed to maxillary sinus. PRF was inserted to close oro-antral communication, next two blocks of Bio-Oss Collagen with granules were apply to alveolus. Whole graft were colsed by Mucograft Seal and another 2 PRF membrane. Soft tissue were suttured. Antibiotics and painkillers were prescribed. Control examination after 2 weeks showed correct healing. CBCT was taken after 3 months and reveal complete fistula closing and sinusitis healing. Additional new hard tissue was formed giving opportunity to implantation in this area.



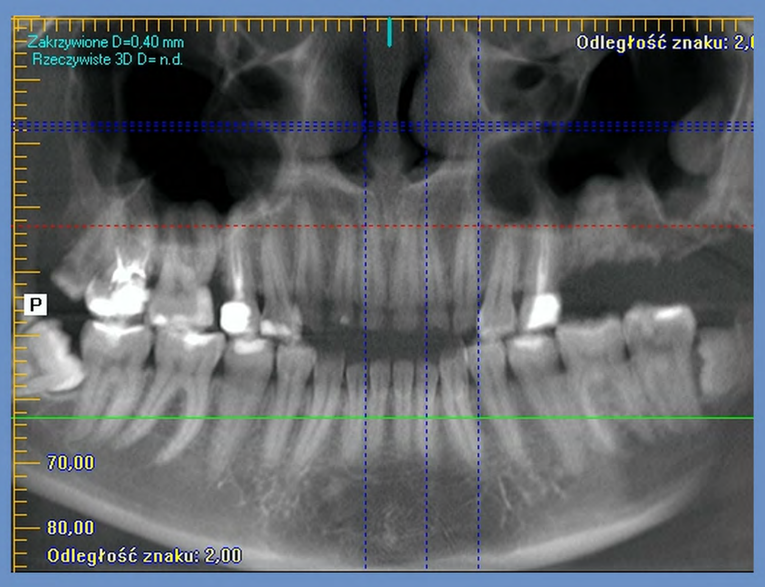
CBCT, fistula and sinusitis inflammation after tooth 26 extraction

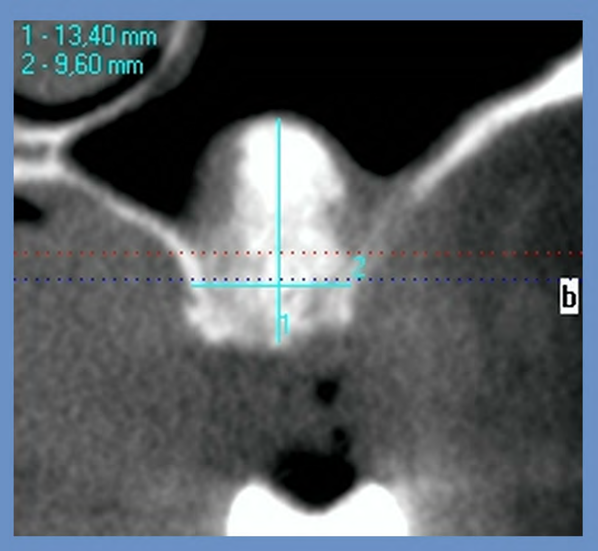
Bio-Oss material in alveolus



Whole graft cover by PRF membrane

Platelet rich fibrin with in combination with GBR materials gives predictable healing after complicated surgical procedures such as oro-antral communication closing. Growth factors contained in PRF accelerate healing process and reduces infammation in operation area.





CBCT, situation after 3 months of fistula closing using GBR and PRF material. New bone formation and complete sinus healing