

International Conference on

# Plastic & Aesthetic Surgery

August 08-10, 2016 Toronto, Canada

## Platelets rich plasma in septum reconstruction

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Respiratory malfunction as a result of septum deformation is a widespread otolaryngological pathology. In recent years many different methods of respiratory function recovery were developed but post operational aftereffects (septum penetration mucous tunic atrophy, sub-mucous hematomas) still remains significant problem. We developed a new method of full nasal septum cartilage recovery using auto cartilage fragment and platelet rich plasma (PRP) of human blood. Extracted deformed fragments of quadrangular cartilage are pulverized and placed into auto plasma. Solution of 10% CaCl<sub>2</sub> (4 drops per 1 ml) is used as a catalyst for plasma polymerisation. Small pieces of cartilage are wrapped into thrombocytic fibrous clots resulting in Platelet-Cartilage Autograft (PPCA) with width of 1-2 mm. Graft of necessary size for implantation between mucoperichondrial sheets is dissected from PPCA. The final stage of the operation is traditional nasal tamponade. Our research showed that during a week after the operation protein cover of autotransplant excrete platelet growth factors. These factors help in wound treatment and autotransplant integration between mucoperichondrial sheets. We performed 220 operations, 120 using our method and 100 of traditional septoplasty for control group. PPCA septoplasty showed better results and fewer after effects during post operation period than traditional methods. We did not register any cases of perforation, secondary septum deformation or hemorrhage and only one case of submucosal hematoma after tampon removal. Control group showed 3 cases of septum perforation, 7 cases of submucosal hematoma after tampon removal and 5 cases of respiratory dysfunction as a result of secondary septum deformation. Our results prove PPCA method of septoplasty to be reliable in any septum resection defect treatment, postoperative after effects prevention (septum flotation, septum perforation especially during intraoperative traumatic defects of mucous tunic). High secretion rate and adhesive ability of PGF helps in mucoperichondrial sheets treatment and submucosal hematoma prevention.

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## Contour plastic of the face using own fat wrapped in own plasma protein (new method of lipofilling)

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Lipofilling as a method of contour plastic of the face is not wide spread due to 30-50% of resorption of the injected fat. Aspirated fat tissue consists of certain fat cells and fragments and has acidity within 5.5-5.8. Using sodium hydrocarbonate with aspirated fat leads to alkalization. Destroyed fat cells, acid or alkaline medium are course of phagocytosis induction and resorption of the injected fat. We offer a method of fat cells and grafts wrapping in own plasma protein. In this case, every fat cell or graft envelops with own plasma protein and doesn't undergo leukocyte aggression and autolysis. Acidity of the fat mass wrapped in protein normalizes within 6.2-6.8. Method of wrapping fat cells in protein: Blood is sampled in sterile tubes with solution of sodium citrate and centrifuged (2000 revolutions per minute). After centrifugation, erythrocytic stratum is removed and plasma with platelets is placed in separate sterile glass. Aspirated fat mass is cleaned from the blood and placed in this glass too. 10% solution of calcium chloride is added to the plasma and shaken up carefully for 5 minutes. The blend of plasma with fat cells is polymerized and turned into gel-type mass, inside of which are enveloped fat cells and grafts. After polymerization wrapped in protein fat mass has maize yellow color. We usually inject this mass by a syringe through 2 mm needle and use it in the next cases: Liposculpture of nasolabial sulcus, lips and cheeks, correction of retracted scars and defects of soft tissues. In our practice the volume of single injected fat mass was 2-70 ml. Fat resorption in postoperative period doesn't overcome 15%. Correction of age-related changes of the face and posttraumatic soft tissue deformations, symptomatic treatment of lipodystrophy by using this method lead to perfect results.

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