The use of autologous platelet-rich plasma (platelet gel) and autologous platelet-poor plasma (fibrin glue) in cosmetic surgery.

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Abstract:

The purpose of this study was to evaluate a new technique of harvesting and preparing autologous platelet gel and autologous fibrin glue (body glue) and to evaluate their effectiveness in stopping capillary bleeding in the surgical flaps of patients undergoing cosmetic surgery. A convenience sample of 20 patients ranging from 25 to 76 years of age undergoing cosmetic surgery involving the creation of a surgical flap were included in the study. The types of surgical procedures included face lifts, breast augmentations, breast reductions, and neck lifts. Platelet-poor and platelet-rich plasma were prepared during the procedure from autologous blood using a compact, tabletop, automated autologous platelet concentrate system (SmartPReP, Harvest Autologous Hemobiologics, Norwell, Mass.). The platelet-poor and platelet-rich plasma were combined with a thrombin-calcium chloride solution to produce autologous fibrin glue and autologous platelet gel, respectively. Capillary bed bleeding was present in all cases and effectively sealed within 3 minutes following the application of platelet gel and fibrin glue. The technique for making the solution and for evaluating its effectiveness in achieving and maintaining hemostasis during cosmetic surgical procedures is described. Autologous platelet gel and fibrin glue prepared by the automated concentrate system are compared with autotransfusor-prepared platelet gel and Tisseel (Baxter Healthcare Corp.), a commercially prepared fibrin sealant preparation.