The use of autologous platelet and plasma products in salvage neck dissections: a prospective clinical study evaluating early and late wound healing.

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Abstract:

To evaluate the effect of autologous platelet and plasma adhesives (APA) on postoperative drainage and soft-tissue fibrosis following neck dissections. This was a blinded comparative prospective cohort study done as two parts: part one evaluated early post-surgical outcomes and part two evaluated late tissue fibrosis. Salvage neck dissections were stratified into two groups based on severity of prior treatment. High risk patients were defined as those who had previously undergone chemoradiation therapy and autologous platelet adhesives were administered to the surgical wound intraoperatively. The low risk group consisted of patients undergoing salvage neck dissections following radiation only and acted as controls. Part one evaluated postsurgical wound drainage as the primary outcome as well as length of hospital stay and complications. Part two evaluated late postoperative tissue fibrosis by comparing neck skin using the Cutometer. R2 and F0 were the specific Cutometer parameters for quantifying the viscoelastic properties of the skin. Postoperative wound drainage was significantly less (253.7 vs. 345.8) in the autologous platelet adhesive group as compared to the control group (p less than 0.03). Length of stay in the APA group versus the control group was 3.13 and 3.86 days respectively (p less than 0.004). Both R2 and F0 measurements showed improved viscoelastic properties of the skin in the APA group (R2 p less than 0.05, F0 p less than 0.05). APA application following salvage neck dissections may reduce early postperative wound drainage and improve long-term skin quality.