A pilot study of the effects of vivostat patient-derived fibrin sealant in reducing blood loss in primary hip arthroplasty.

Authors: Lassen M.R., Solgaard S., Kjersgaard A.G., Olsen C., Lind B., Mittet K., Ganes H.C.

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Abstract:

A pilot study evaluated the effectiveness of Vivostat patient-derived fibrin sealant in reducing blood loss in patients who underwent primary hip arthroplasty. Eighty adult patients undergoing elective surgery were randomized to receive either Vivostat sealant or control (no additional hemostatic treatment). Patients allocated Vivostat sealant donated 120 mL of blood, which was then processed perioperatively to produce a fibrin sealant that was applied to the bleeding wound surfaces just before closure. Transfusion requirements, blood loss during surgery, drain volumes, and daily hematocrit and hemoglobin levels were measured. Hospitalization times, adverse events, and postoperative wound complications were also monitored. Blood loss during surgery and wound drainage volume was lower in the Vivostat group than in the control group, although the differences were not significantly different. Transfusion requirements (median, 270 mL of packed red blood cells) and hospitalization times (both median 7 days) were the same for both groups. No adverse events related to the use of Vivostat occurred. There were indications of a possible reduction in the incidence of postoperative wound oozing (15% vs 25%) and hematomas (6% vs 11%) with the use of Vivostat compared with the control group, although differences were not statistically significant. In conclusion, in this pilot study, use of Vivostat patient-derived fibrin in hip arthroplasty was not associated with a significant reduction in blood loss. Further studies, with larger numbers of patients, may be warranted to investigate a possible benefit of Vivostat in reducing postoperative wound complications.