Effect of aerosolized fibrin sealant on hemostasis and wound healing after endoscopic sinus surgery: A prospective randomized study.

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Abstract:

Background: The purpose of this study was to investigate the effect of aerosolized fibrin sealant (FS) compared with that of polyvinyl acetal sponge packing on hemostasis and wound healing after functional endoscopic sinus surgery (FESS). Methods: We conducted a prospective randomized controlled trial of the use of aerosolized FS in 41 consecutive patients who underwent bilateral FESS between February 2011 and March 2012. The patients were randomized to receive FS applied via an aerosol spray in one nasal cavity and polyvinyl acetal sponge packing in the opposite cavity. The patients were followed up at 1, 2, 4, 8, and 12 weeks postoperatively. Crusting, adhesion, bleeding, granulation tissue formation, infection, and frontal sinus ostium stenosis after endoscopic surgery were assessed using a grading scale. Subjective symptoms related to nasal packing were evaluated using questionnaires quantified by visual analog scales. Results: The degree of granulation and crusting was significantly reduced in the side treated with FS compared with the polyvinyl acetal sponge side, as were bleeding and pain during nasal packing removal ($p < 0.05$). In addition, general satisfaction and willingness to reuse the material were significantly higher for the FS-treated side than for the polyvinyl acetal sponge-packed side ($p < 0.001$). Conclusions: Compared with polyvinyl acetal sponge, aerosolized FS shows beneficial effects on hemostasis and wound healing after FESS. The application of FS resulted in a high degree of patient satisfaction without additional morbidity.