Fibrin sealant reduces serous drainage and allows for earlier drain removal after axillary dissection: a randomized prospective trial.

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Abstract:

Fibrin sealant (FS) has been used successfully as an effective adhesive and hemostatic agent in a variety of surgical procedures. At the University of Virginia, autologous fibrin sealant is used to reduce the potential accumulation of serous fluid after axillary dissection in patients undergoing modified radical mastectomy (MRM) for carcinoma of the breast. Unilateral MRM, including level I and II axillary lymph node dissection, was performed upon 21 patients prospectively randomized into treatment and control groups. Surgical procedures between both groups differed only by the application of autologous FS prior to axilla closure in the treatment group. Drainage was collected and measured at 24-hour intervals following the operation. Drains were removed following the measurement of 40 ml or less during a 24-hour interval. Cumulative drainage for the first 3 postoperative days in the treatment group averaged 198 +/- 83 ml compared to 467 +/- 138 ml in the control group ($P < 0.0003$). Day of drain removal averaged 3.9 +/- 1.7 for the treatment group and 6.9 +/- 1.2 for the control group ($P < 0.0001$). In the treatment group, there was a reduction in cumulative drainage over the first 3 days of 268 ml or 57 per cent, and there was a reduction in the number of days before drains can be removed of 3.0 days, or 43 per cent. We conclude that local application of FS significantly reduced the total drainage measured in patients undergoing MRM and enabled earlier drain removal.