Autologous Fibrin Glue Using the Vivostat System for Hemostasis in Laparoscopic Partial Nephrectomy.

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Abstract:

Objectives: Haemostasis remains the greatest challenge during laparoscopic partial nephrectomy. Use of fibrin sealant currently is increasing. We describe first a technique for achieving effective haemostasis during laparoscopic partial nephrectomy using the VivostatTM system. Methods: Ten patients underwent laparoscopic partial nephrectomy. Autologous fibrin sealant was prepared with the VivostatTM system and applied to the resection bed. This system is an automated medical device for the preparation of an autologous fibrin sealant, generating up to 5 ml of sealant from 120 ml of the patient's blood. The concentration of fibrin and the volume of sealant are stable; the sealant may be kept at room temperature for up to 8 hours before application without a loss of properties and effectiveness. The patients were evaluated for acute and delayed bleeding. Results: Mean patient's age was 54 years (range, 31-68). Haemostasis was immediate in all cases after application of the sealant for 1 to 2 minutes to the resection site; no additional haemostatic measures were required. Mean warm ischemia time was 23 minutes (range, 20-27); mean blood loss was 90 cc (range, 20-200). Pre-operative and post-operative serum haemoglobin did not differ significantly (mean, 14.9 vs 12.6 g/dl) and creatinine values (mean, 0.91 vs 0.95 ng/ml). Mean operative time was 136 minutes (range, 60-180). No postoperative bleeding or other complications occurred. Conclusions: In this study, immediate haemostasis was achieved and maintained after the kidney was reperfused. Our initial experience with the VivostatTM system in laparoscopic partial nephrectomy has been encouraging.