Efficacy and safety of the haemostasis achieved by Vivostat System during laparoscopic partial nephrectomy.

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Publication Date: 2009

Abstract:

Introduction: Haemostasis remains the greatest challenge during laparoscopic partial nephrectomy. We describe the use of the VivostatTM system helping effective haemostasis during laparoscopic partial nephrectomy (LPN). Patients and method: Twenty-eight patients underwent LPN. 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 from the patient's blood. Pre and postoperative clinical parameters and laboratory values were evaluated, for acute and delayed bleeding. Results: Median patient's age was 58 years (range, 25-75). All patients underwent LPN for renal tumors (mean size 2.5 cm; range 0.9-4.5 cm). Six resection were performed without vessels clamping, and 22 were realized with selective arterial Bulldog clamping. Haemostasis was achieved by a cellulose bolster (80%), by stitches (67%) and by sealant application after declamping (100%) (mean amount applied: 5.1ml). The mean warm ischemia time was 26 minutes (range, 16-45) for 22 interventions. Mean blood loss was 128cc (range, 20-500). Pre-operative and post-operative creatinine values (mean, 0.91 vs 1ng/ml) did not differ significantly; whereas mean Hb levels slightly decreases after surgery (mean, 14.7 vs 12.5 g/dl). Mean operative time was 131 minutes (range, 60-190). All but one had negative surgical margins. One intraoperative bleeding occurred needing blood transfusion (1 unit). Postoperatively, we observed only 1 perirenal hematoma treated conservatively requiring blood transfusion. Conclusions: In this study, an effective haemostasis was achieved and maintained after kidney reperfusion. These data support the previous finding with the same system and encourage its use in LPN.