The use of a fibrin tissue sealant during laparoscopic partial nephrectomy.

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Abstract:

OBJECTIVE: To assess the feasibility and efficacy of commercially available fibrin tissue sealant as a haemostatic agent and collecting-system sealant during hand-assisted laparoscopic partial nephrectomy (LPN).

PATIENTS AND METHODS: Fifteen consecutive patients underwent LPN for enhancing renal masses suspicious for renal cell carcinoma via a transperitoneal approach and with the use of a hand-assistance device. Monopolar electrocauterization and argon-beam coagulation were initially used to slow bleeding from the resection site. Through a laparoscopic applicator, Tisseel(TM) fibrin sealant (Baxter Inc., Deerfield, IL) was applied to the transected partial nephrectomy bed while the surgeon's hand maintained adequate compression and partial haemostasis. No further haemostatic measures were required in any patient; the patients were evaluated for acute and delayed bleeding or urinary extravasation.

RESULTS: In all cases electrocauterization and argon-beam coagulation followed by the application of Tisseel was successful in obtaining strict haemostasis of the surgical bed, with no evidence of bleeding during or after surgery on immediate and extended follow-up. In addition, there was no evidence during or after surgery of any urinary leak. There were no immediate or delayed complications in any of the patients; a short-term outpatient follow-up (12-60 weeks) revealed no additional problems.

CONCLUSIONS: Conventional haemostatic measures of electrocauteriztion and argon-beam coagulation combined with commercial fibrin sealant allows successful haemostasis during LPN. In addition to haemostatic properties, fibrin sealants appear to have sealing properties that may help to prevent complications of urinary leakage by helping to seal or close the small defects in the urinary collecting system. The use of this compound may facilitate the ability of the urological laparoscopist during LPN.