

# **Coagulum pyelolithotomy "revisited" by laparoscopy: technique modification.**

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## **Abstract:**

**OBJECTIVE:** Laparoscopic ureteropyeloplasty is a widely accepted treatment option for the obstructed ureteropelvic junction (UPJ). Although it is often a straightforward surgical procedure, there may be technical difficulties in the case of concomitant stone burden, with multiple calicial, small, mobile stones. The authors describe a modification to the classic coagulum pyelolithotomy, using a mixture based on commercially available fibrin sealant, first used in the laparoscopic era.

**METHODS:** During a laparoscopic transperitoneal dismembered ureteropyeloplasty complemented with coagulum pyelolithotomy, the following steps are suggested: (1) Exposure of the UPJ; (2) ureter clamping with a vessel loop 2 cm distal to the UPJ (to allow pelvis filling); (3) transabdominal puncture of the pelvis with an 18-G, 20-cm needle (under laparoscopic vision) and urine aspiration; (4) recording the volume of urine aspirated; (5) preparing an equal volume of fibrin sealant (to avoid overdistention of the pelvis); (6) injecting the sealer protein solution through that needle + 1 mL of methylene blue (color the coagulum and facilitate its identification in the removal procedure); (7) insertion of another needle to inject the thrombin solution; (8) wait 5 minutes to allow coagulum cast formation; (9) circumferential excision of the UPJ; (10) coagulum removal; (11) pelvis plastic reduction (if needed) and ureter spatulation; (12) double-J stent placement; and (13) tension-free anastomosis completion.

**RESULTS:** The procedure results in the extraction of a tenacious coagulum containing more stones than normally anticipated from the x-ray studies.

**CONCLUSIONS:** This technique modification reduces the incidence of incomplete stone removal, when there are small, free stones lying in a large renal pelvis.

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