Stented PCNL using 'Fogarty' balloon occlusion catheter for application of fibrin sealant: Point of technique.

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Abstract:

Introduction: Percutaneous nephrolithotomy (PCNL) is an established procedure in the treatment of renal stones. During conventional practice a nephrostomy tube is left in place at the end of the procedure which contributes much of the morbidity associated with PCNLs advocating the use of tubeless PCNLs. Methods: A retrospective study of patients undergoing tubeless/stented PCNLs was undertaken. At the end of procedure an antegrade JJ stent is inserted followed by placement of a 'Fogarty' balloon occlusion catheter via the nephroscope abutting the renal substance. Fibrin sealant preparation is loaded around the 'Fogarty' catheter which prevents the sealant escaping in the pelvi-calyceal system. The 'Fogarty' catheter is removed after the sealant is sited. Results: 22 patients undergoing a tubeless/stented procedure were compared with 100 undergoing a standard PCNL with/without intercostal nerve block. Analgesia usage was less in patients undergoing a tubeless procedure (mean opiate use 52.4 mg vs 84.4 mg, mean NSAID use 171 mg vs 370 mg). Patient undergoing a stented procedure had on average a shorter hospital stay (2.9 days vs 8.6 days). 3 patients undergoing the standard procedure had urinary leakage from the nephrostomy site with a further 2 patients having ongoing haematuria. No complications were reported in the patients undergoing a stented PCNL. Conclusions: Stented PCNLs are a safe and effective alternative to standard PCNLs. The deployment of 'Fogarty' catheter is a novel way to prevent fibrin sealants escaping into the pelvicalyceal system. They are associated with a reduction in complications; reduce hospital stay and a decrease in postoperative analgesia usage.