

#186 Aaron Huang

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### **Clinical Utility of Multiple Prior Urine Cultures in Detecting Positive Intraoperative Renal and Ureteral Stone Cultures**

**Objective:** To assess the concordance of pre-operative urine cultures and intraoperative urinary stone cultures in patients undergoing surgical treatment of upper urinary tract stones.

**Materials and methods:** A retrospective cohort study on all consecutive patients who underwent percutaneous or endoscopic management of urinary stones at a single institution during a 30-month period was performed. Preoperative urine cultures (PUC), second prior urine cultures within 100 days of surgery (SPUC), and intraoperative stone cultures (SC) were compared to blood culture results of those patients who developed systemic inflammatory response syndrome (SIRS). Patient characteristics, comorbidities, perioperative data, and infectious complications were recorded and correlated with SIRS via logistic regression.

**Results:** Of the 103 procedures for which PUC and SC were available, there were 59 patients with a SPUC. There was concordant organism growth in 44.4% of the positive PUCs and SCs with concordance of 66.6% between SPUC and SC. Of the four patients who developed postoperative SIRS and had a positive blood culture, there was concordant growth with 50% of SC, 25% of SPUC, and 0% of PUC. Significant predictors on multivariate regression of positive SC were ASA  $\geq$  3, total stone burden  $\geq$  1 cm, struvite stone composition, and SPUC. PUC was not a significant predictor.

**Conclusions:** In this study, a SPUC within 100 days of surgery was associated with a positive SC while PUC was not. This study is the first to include results from SPUC which found greater organism concordance of SPUC with SC and blood cultures than PUC. Obtaining or examining multiple urine cultures prior to surgery may have greater utility than PUC alone.

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