

**FP10****Pre-operative MSU culture may help prevent, but stone culture helps predict post-operative sepsis risk at PCNL**

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Objective: Percutaneous treatment of renal calculi has an estimated complication rate of 20.5%, including a risk of sepsis as high as 5%. The aim of this study was to determine the sensitivity of pre-operative MSU (mid-stream urine) culture and stone culture in predicting sepsis risk at supine PCNL (percutaneous nephrolithotomy).

Materials/Methods: Prospective analysis of pre-operative MSU, stone culture and stone analysis for all supine PCNL's undertaken at Casey hospital, Monash Health, between May 2013 and May 2014. Data were available on 42 patients; mean age 54. Standard prophylaxis was: Ceftriaxone 1g/Gentamicin 160mg and Ampicillin 1g intravenously, at anaesthetic induction.

Results: Sepsis rate was 9.5% (n=4/42).

10% (n=4/42) of patients had a positive pre-operative MSU. All were treated with appropriate pre-operative antibiotics. All still grew concordant pure growth micro-organisms from their stone culture, but none suffered post-operative sepsis.

29% (n=12/42) of patients had positive stone cultures, 8 of which had negative MSU's, including the 4 who developed post-operative sepsis.

57% of struvite stones and 29% of uric acid containing stones had positive stone cultures. The presence of uric acid increased the risk of colonisation of calcium oxalate stones by 50%.

Sensitivity of pre-operative MSU for predicting positive stone culture was 33%.

Stone culture had a sensitivity of 100%, specificity of 79%, and positive predictive value of 33% for post PCNL sepsis.

Conclusions: Pre-operative MSU is positive in 1 in 10 planned PCNL's. Reducing bacterial load in this group with pre-operative antibiotics may prevent post-operative sepsis, despite the presence of persistent bacteria on stone culture. Pre-operative MSU is however not sensitive for predicting positive stone culture and subsequent sepsis risk. Stone culture should therefore be sent in all patients to help direct post-operative antibiotics; particularly in patients with struvite or uric acid components to their stone.