

## Are there any predictors of Pyonephrosis in patients with Obstructive Uropathy?

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### Introduction

Pyonephrosis secondary to obstructive uropathy is managed by either percutaneous nephropylonephrosis. stomy(PCN) or retrograde ureteric stenting. Our preference has been the percutaneous approach as it ensures better drainage of urine when there is pyonephrosis.

The aim was to identify factors that predict pyonephrosis in those undergoing PCN.

### Methods

We retrospectively reviewed the records of all the patients who underwent PCN later antegrade stenting at our institution from 2018 to 2020. Pyonephrosis was defined as the presence of bacteria or fungal pathogen in the pelvicalyceal system. Data on the demographics, comorbidities, clinical presentation, urine and blood results on admission, length of hospital stay and presence of purulent urine on puncture of kidney were collected.

### Results

Total of 100 patients were included in study. Pyonephrosis was diagnosed in 31 patients. The remaining 69 patients were found to have no growth in PCN urine. We found that white blood cell count (WBC) of greater than  $15 \times 10^6/L$ , C reactive protein (CRP) greater than  $40\text{mg/L}$  and a positive bladder urine culture were likely to predict for pyonephrosis. Presence of diabetes, fever on admission, positive blood culture and purulent urine on puncture were not significant factors. We also found that median length of stay from PCN insertion to antegrade stenting was 7days (3 - 27).

### Conclusion

Our study suggests that elevated WBC, CRP and a positive urine culture are most likely to predict for pyonephrosis. A single staged antegrade or retrograde stenting would reduce hospitalisation stay in those without pyonephrosis.



