Asymptomatic Small (<5mm) Distal Ureteric Calculi Do not Need Follow-Up

Introduction and Objective: The management of ureteric calculi is an ever-expanding expenditure for an acute urological service. The statistical probability of spontaneous ureteral stone passage is directly related to the distance of the ureter to be traversed and inversely related to stone size *(Wein: Campbell-Walsh Urology, 9th ed.)*. Previous research has demonstrated that up to 98% of distal ureteric calculi <5mm will pass spontaneously *(Segura et al. J Urol 1997; 158(5): 1915-21)*, and that at presentation >50% of all ureteric calculi are present in the distal ureter *(Rizvi et al. BJU 2002; 89(1):62-68)*. We set out to determine a safe, cost effective alternative approach to the management of small (<5mm) distal ureteric calculi.

Materials and Methods: A retrospective analysis of all ureteroscopic stone extractions performed over a 3 year period in Christchurch, NZ was undertaken. Data was collected from both the public and private hospitals, providing complete community capture. All radiology was reviewed to confirm calculi size and location. To determine if patients who required ureteroscopy could be identified by symptoms alone, a systematic chart review of outpatient clinical notes was performed. Patients were then contacted individually to confer accuracy of clinical notes. Patients were excluded from the study if they were deemed to have a complicated distal ureteric calculi. This included patients undergoing staged procedures for complex calculi, bilateral calculi, solitary kidneys, urosepsis, stones >4mm, and patients undergoing concomitant surgical procedures (eg. TURBT). A cost analysis of the follow-up of a trial of passage for an uncomplicated distal ureteric calculi including outpatient time, and follow-up imaging was then performed.

Results: A total number of 439 Ureteroscopic Stone extractions were performed during the 3 year period. There were 161 ureteroscopies for distal calculi, and 26 of these for calculi <5mm in maximal diameter. Of these 14 were deemed to be “uncomplicated”. All 14 patents reported symptoms significant enough to warrant further treatment. These include 13 patients with persistent pain, and 1 patient with a urinary tract infection and significant LUTS. The total savings from patients discharged from the emergency department who remain symptom free with uncomplicated distal ureteric calculi < 5mm in size without urology outpatient follow-up is estimated to be significant.

Conclusions: We have shown that over a 3-year period, all patients presenting with “uncomplicated” distal ureteric calculi <5mm requiring intervention were symptomatic prior to their treatment. Based on these findings patients in this subset do not require radiologic follow-up. This reduces urology outpatient clinic follow-up at a significant fiscal saving.