

Urology in Practice

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With warmer weather approaching, the incidence of ureteric colic correspondingly always increases. It's therefore timely to review how best to manage this common clinical problem.



Managing Ureteric Stones: Some Practical Advice

Acute renal, or more correctly "ureteric" colic is a common problem in urology. The incidence of acute attacks increases markedly in the warmer months of the year, as stone-formers become relatively dehydrated.

While most people who experience a severe attack of pain will go straight to their nearest emergency department, it's not unusual for them attend their GP's office, so it's important to know how this condition is diagnosed and managed.

The first point to remember is that most people who suffer ureteric colic will NOT require surgery. Most ureteric stones are small ($\leq 5\text{mm}$) and there's a 90-95% chance that these stones will pass spontaneously. Larger stones have a lower likelihood of passing, but even a 7-8mm stone has around a 20-30% chance of passing without surgical intervention. In general, if an individual's pain can be controlled, there is no sign of sepsis and reasonable renal function is maintained, it's quite safe to observe the patient to see if they pass the stone without intervention.

How is Ureteric Colic Diagnosed? Severe and sudden onset pain, due to acute distension of the renal pelvis and ureter, is the main presenting symptom. It's unrelieved by posture and can radiate anywhere from the loin to groin (even the testes in males). There is often associated nausea and vomiting.

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Managing Ureteric Stones (continued)

Fever is not present in uncomplicated colic, but most patients will have an elevated neutrophil count. Serum creatinine is usually normal or only mildly elevated if a patient has two healthy kidneys. Urinalysis reveals microhaematuria in virtually every case, so if this is not present, consider differential diagnoses.

What is the best Imaging to Perform? *A non-contrast CT KUB is the imaging test of choice.* A good quality CT scan can detect a significant stone virtually every time, help to exclude other differential diagnoses, and also guide further management. A plain Xray of the urinary tract (KUB Xray) is also really useful, as it can distinguish between calcium stones (radiopaque) and uric acid stones (radiolucent), and is an easier and safer way of monitoring a calcium stone in patients being treated by observation. *Ultrasound is notoriously unreliable in the diagnosis and management of urinary tract stones.*

Which Patients Need Urgent Urological Review? As mentioned above, most patients can be managed conservatively for a period of time, but some individuals will require more urgent intervention. If there is evidence of sepsis (fever or haemodynamic instability) patients should be sent straight to the emergency department. Similarly, cases associated with significant acute renal impairment (eg solitary kidney, background of CRF) need urgent urological review. Other indications for more prompt surgical intervention may include uncontrollable pain, very large stones (>1cm) with a remote chance of passing, or social circumstances (eg airline pilots).

What Is Conservative Management? Patients are provided with analgesia (indomethacin suppositories usually work best) and *Flomaxtra* (tamsulosin), which has been shown in some studies to aid the passage of small ureteric stones. Patients should be advised to maintain a normal diet and fluid intake in acute episodes of ureteric colic. *There is no evidence to suggest that drinking excessive quantities of fluids with help to expel a stone impacted in a ureter, and it may actually make the pain worse!* If the patient remains clinically well, a repeat CT KUB or plain Xray is performed about 4-6 weeks later to see if the stone has passed. If the stone hasn't passed at this stage, the likelihood of spontaneous passage is diminished and urological advice should be sought. *Follow-up imaging should always be performed, even if the individual is pain-free, as retained stones can occasionally cause "silent ureteric obstruction" over many months or years, resulting in renal impairment.*

What Procedures Are Performed For Ureteric Stones? Ureteric stenting can be performed in the acute setting to relieve severe and unrelenting pain. Stents are only a temporary measure to relieve obstruction until definitive treatment can be undertaken. Patients need to be made aware of this fact prior to surgery, and also warned of the discomfort, urgency and haematuria (although harmless) that stents often cause. Ureteric stones are usually most effectively treated by ureteroscopy and fragmentation or extraction. Stones in the lower ureter are generally easier to access than stones in the upper ureter, so even in cases of larger ureteric stones, a period of observation, where feasible, is worthwhile, to see if the stones migrates into the distal ureter. *Flexible (fiberoptic) ureteroscopy and laser fragmentation has made virtually all ureteric stones accessible and treatable, and is the most common procedure performed nowadays for this condition. However, shockwave lithotripsy (SWL) is still a reasonable option for some upper ureteric stones, as it offers the benefit of being non-invasive, and patients don't require a temporary ureteric stent.* Percutaneous nephrostomy (percutaneous renal drainage tube) is performed in cases of severe sepsis secondary to an obstructing ureteric stone.

The information provided above is intended as a guide to stone management. If you require any further advice or would like an opinion on one of your patients, please contact my office on 8197 1900 or email reception@urologicalsurgeon.com.au. I am now using secure transmission for all correspondence with ARGUS.