

Tamsulosin in Acute Nephrolithiasis

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Clinical Question: Does Flomax (tamsulosin) help facilitate stone passage in adults with acute nephrolithiasis?

Acute Nephrolithiasis is a common occurrence in Emergency Departments. Patients may present with classic symptoms such as flank pain that radiates to the groin and hematuria, or more subtle symptoms such as vague abdominal or back pain, nausea, vomiting, urinary urgency or hesitancy, dysuria, and even penile or scrotal pain. Pain is due to passage of stones down the ureter or obstructing stones that cause distension of the renal capsule. Multiple types of stones can be seen, **calcium** being the most common and seen in 80 percent of patients, along with uric acid, struvite, and cystine stones. Diagnosis in the ED is most commonly made by **non-contrast CT** scan after the clinical picture and urinalysis show evidence of nephrolithiasis.

Once the diagnosis of nephrolithiasis is made, pain control can be achieved with NSAIDs and/or opiates. Whether a stone will pass or not is dependent on the **size and location** of the stone. **Most stones \leq 5mm** will pass spontaneously. For stones larger than 4mm the rate of passage declines as stone size increases. **Stones greater than 10mm rarely pass, and proximal** ureteral stones have a decreased rate of spontaneous passage compared to stones located more distally.

To facilitate stone passage, many medications may be used. These medications include antispasmodic agents, CCBs such as nifedipine, and alpha blockers such as tamsulosin. A **2014 meta-analysis** of 32 trials enrolling 5,864 patients revealed that ureteral stone passage was more likely with alpha blocker therapy versus conservative treatment alone (77 versus 52 percent). It also revealed that stone passage occurred on average of three days faster with an alpha blocker. When comparing nifedipine directly to tamsulosin, meta-analysis revealed that tamsulosin facilitated stone passage faster than nifedipine therapy. Due to this data suggesting faster stone passage with tamsulosin, the American Urological Association recommends initiation of treatment with tamsulosin (0.4 mg once daily) for four weeks to facilitate spontaneous stone passage in patients with stones $<$ 10 mm in diameter. Patients are then re-imaged if spontaneous passage has not occurred.

Based upon this data and these recommendations, patients with urinary stones $<$ 10mm in diameter when discharged from the Emergency Department should be given a prescription of tamsulosin 0.4mg once daily for four weeks.

For other takes on the evidence, go here: <http://www.emlitofnote.com/2014/04/sadly-inadequate-cochrane-review-of.html>

// <http://rebelem.com/use-tamsulosin-renal-colic-facilitate-stone-passage/>

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