Tamsulosin-induced-priapism: A Rare Complication Associated With The Management Of Ureteric Colic.

Author(s): Dr. Anthony Venyo

Corresponding Author:  
Dr. Anthony Venyo,  
Urologist, Urology Department. North Manchester General Hospital, M8 5RB - United Kingdom

Submitting Author:  
Dr. Anthony Venyo,  
Urologist, Urology Department. North Manchester General Hospital, M8 5RB - United Kingdom

Article ID: WMC001295  
Article Type: Case Report  
Submitted on: 07-Dec-2010, 11:20:04 PM GMT  
Published on: 08-Dec-2010, 08:51:04 PM GMT

Article URL: http://www.webmedcentral.com/article_view/1295

Subject Categories: UROLOGY

Keywords: Tamsulosin-Induced-Priapism; Renal colic; Complication; detumescence; aspiration; corpora cavernosa

How to cite the article: Venyo A. Tamsulosin-induced-priapism: A Rare Complication Associated With The Management Of Ureteric Colic. . WebmedCentral UROLOGY 2010;1(12):WMC001295

Source(s) of Funding:  
None

Competing Interests:  
None
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Abstract

“Background”

Priapism has been reported as a rare effect of the commonly used alpha 1-antagonist through direct inhibition of the sympathetic input necessary for detumescence. Tamsulosin is a widely used alpha-blocker throughout the world in the management of lower urinary tract symptoms related to benign prostatic hyperplasia (BPH). Tamsulosin has also been used over the past decade in the management of distal ureteric calculi to help in the expulsion of the calculi. Priapism emanating from ingestion of tamsulosin is extremely rare.

“Aims” To report the presentation and management of a case of Tamsulosin-Induced-Priapism

“Case Report”

A 35-years-old man was admitted because of left sided ureteric colic due to calculi in his left lower ureter. He was given analgesia to control his pain. He was subsequently put on tamsulosin 400 micrograms noxte with the hope that tamsulosin would facilitate the expulsion of the calculi into the bladder. After taking the first dose of tamsulosin he developed priapism for seven hours before mastering courage to inform medical staff. The priapism resolved after aspiration of 100 mls of blood from the corpora cavernosa.

“Conclusion”

Tamsulosin is a useful medication for the management of symptoms related to BPH and distal ureteric calculi. However, its use may be associated on rare occasions by priapism hence Health-care professionals should be aware in order to advice all patients taking such medications about this rare but serious adverse effect and to seek help on time.

Key Words:

Tamsulosin-Induced-Priapism; Renal colic; Complication; detumescence; aspiration; corpora cavernosa

Introduction

Tamsulosin is a potent adrenergic alpha-1 antagonist which is used in the treatment of lower urinary tract symptoms associated with BPH. Tamsulosin has also been used recently in the management of lower ureteric stones. Priapism has been reported rarely in patients taking Prazosin, Doxazosin, and Terazosin in a spinal cord injured patient. Reports of priapism emanating from ingestion of tamsulosin are very rare. A case of priapism emanating from ingestion of one 400 micrograms tablet of tamsulosin in hospital as a management modality for lower ureteric calculi is reported.

Case Report(s)

A 35-years-old man presented on a Friday night with a history of sudden onset of colicky left loin to groin pain of a few hours duration. He had been having intermittent mild left loin pain for about a month prior to his admission but did not seek any medical attention. He had in the past passed stones in his urine on five occasions. He had the habit of drinking lots of milk throughout his adult life. He was asymptomatic otherwise. He was very healthy and did not have any other significant past medical history. He was also not taking any medications.

His general and systematic examinations were normal except for tenderness in his left renal angle and left iliac fossa. His urinalysis revealed red blood cells +++. His full blood count as well as serum urea and electrolytes were normal. He had a plain X-ray of the abdomen (KUB) which revealed opacities in the left hemi-pelvis.

A provisional diagnosis of left sided ureteric (renal) colic was made. His treatment included Diclofenac 50 mg orally three times a day; Paracetamol 1 gram orally four times a day and Tramadol 50 mg orally three times a day as may be required. His pain was reasonably well controlled for three days whilst awaiting intravenous urography.

He had an intravenous urogram which confirmed calculi in his left lower ureter (see figure 1). On the fourth day of his admission he was put on Tamsulosin
400 micrograms nocte. He had the first dose of 400 micrograms at 10 pm. On the fifth day (the morning after taking the first dose of tamsulosin) he noticed that he had developed a painful persistent erection but he was too shy to inform the nursing and medical staff. After seven hours of persistent painful erection he informed the ward staff about his condition. Upon examination he was found to have a rigid erection and Priapism was confirmed. 100 mls of blood was aspirated from his corpora cavernosa and lasting detumescence was achieved.

A 4.7 Fr double J stent was inserted into the left ureter because of impaction of the calculi to relieve his ureteric obstruction and he was listed to under-go ureteroscopic lithotripsy subsequently.

Discussion

Tamsulosin is perhaps the most potent alpa-1 antagonist used for the treatment of symptoms related to benign prostatic hyperplasia (BPH). Tamsulosin over the past decade has been used in the treatment of uncomplicated distal ureteral stones. Griwan and associates, (1) reported excellent results with medical expulsive therapy (MET) for distal ureteral calculi, both in terms of stone expulsion and in the control of ureteral colic pain. Griwan and associates (1) also showed a statistically significant advantage in terms of stone expulsion rate with the use of tamsulosin. They reported that the mean number of episodes of pain, mean days to stone expulsion and mean amount of analgesia dosage used in their study were statistically significant with tamsulosin (P value is 0.007, 0.01, and 0.007) respectively as compared with the watchful waiting group.

Ahmed and Al-Sayeed (2) evaluated and compared the efficacy of tamsulosin and alfuzosin in the medical treatment of symptomatic uncomplicated distal ureteral stones. In this study, a total of 87 patients with distal ureteral stones ≤ 10 mm were randomly divided into three groups. Group 1 patients (n=29) received 400 micrograms tamsulosin daily, and group II patients (n=30) received 10 mg alfuzosin, patients in group III (n=30) did not receive any alpha blocker. Patients in all groups received Diclofenac sodium regularly for one week and then on demand. Follow-up was done on weekly basis for 30 days. The mean stone size was comparable in the three groups (4.97 ± 2.24, 5.47 ± 2.13, and 5.39 ± 1.81 mm respectively). The stone expulsion rate was 86.2% 76.6% and 50% in groups 1, II, and III respectively. The difference in groups 1 and II with respect to group III was significant (p = 0.0028 and 0.035). The mean expulsion time was significantly shorter in groups 1 and II than in group III (p = 0.097 and 0.026). Patients taking tamsulosin or alfuzosin had fewer pain attacks than did group III patients (1.24 ± 0.57 vs 1.43 ± 0.67 vs 1.75 ± 1.17). Only 3 cases of drug side, 2 in group 1 (retrograde ejaculation) and 1 in group II (an episode of hypotension) were recorded. They concluded that the use of tamsulosin or alfuzosin for the medical treatment of lower ureteric stones proved to be safe and effective.

It has been realised that increased duration of priapism is associated with a worse outcome. The mechanism responsible for priapism is an alpha adrenergic blockade, which directly inhibits sympathetic impulse detumescence (3, 4).

Tamsulosin which is a subtype selective alpha-blocker with effect on prostate appears to have an effect on corporal smooth muscle. Hofner and associates (5) found out that tamsulosin can significantly improve overall sexual function in a placebo-controlled study. Hence the observed priapism in a patient taking tamsulosin could be interpreted as the extreme end of a spectrum of manifestations of an otherwise desired phenomenon. Pahuja and associates have suggested that there is some anecdotal evidence that priapism may be precipitated when taking high doses of tamsulosin or concomitant drugs that inhibits its metabolism (6). In patients with intractable recurrent priapism, oral alpha adrenergic agents have been suggested with variable results.

To the author's knowledge four cases of tamsulosin induced priapism have been reported so far. Dodds and associates (7) reported one detailed case of resolved priapism following ingestion of tamsulosin. Pahuja and associates (6) reported an otherwise healthy man with recurrent and then persistent unresolved priapism after the use of tamsulosin. Initial treatment consisted of aspiration and intracavernosal irrigation of iced saline and vasoconstrictive agent but in vain. Pahuja and associates therefore performed “Winters procedure” but that too failed and the priapism persisted.

Kilinc and associates (8) reported a case of partial priapism (partial segmental thrombosis of the corpus cavernosum) secondary to tamsulosin. This case of partial priapism was successfully treated.

De Bruin and associates (9) also reported a case of priapism following off-label use of tamsulosin. The fact that this patient had priapism but was too shy to report his condition early (he reported his priapism after 7 hours) even though he was an in-patient in hospital would be suggestive of the fact that the patient was not informed or alerted about the possibility of this
complication. The fact that the priapism occurred following ingestion of the first dose of the medication confirms the fact that tamsulosin-induced-priapism can occur at any stage when the medication is taken.

**Conclusion**

Tamsulosin is widely used in the management of uncomplicated distal ureteral calculi and in lower urinary tract symptoms associated with BPH.

Tamsulosin-induced-priapism is rare however, with the increasing use of this medicament more cases of tamsulosin-induced-priapism are bound to be encountered by health care professionals.

Patients should not only be educated about the possibility of this complication, they should also be told that upon initial observations of painful involuntary erections following use of an alpha-blocker, the doctor should be informed immediately and this medication should be stopped and not resumed.

**References**

5. Hofner K et al., Tamsulosin 0.4 mg once daily: effect on sexual function in patients with lower urinary tract symptoms suggestive of benign prostatic obstruction. Eur Urol 1999; 36: 335-341
Illustrations

Illustration 1

Intravenous urogram showing obstruction of lower left ureter
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