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CASE REPORT

Priapism secondary to tamsulosin: A case report

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KEYWORDS

Priapism;
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Abstract Priapism is defined as a continuous erection of the penis without any sexual desire and with a duration of more than 4 h; this phenomenon represents a medical emergency requiring urgent treatment and can be followed by fibrosis of the corpora cavernosa and permanent impotence. Priapism can be divided into three subtypes depending on the cause and can be induced by certain agents.

We present a case report of priapism induced by tamsulosin treatment in a patient with obstructive lower urinary tract symptoms (LUTS) and also review the relevant literature.

Priapism secondary to tamsulosin treatment is a rare event that has seldom been reported in the literature. In cases of priapism secondary to medical treatment, interruption of treatment should avoid further events.

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PALABRAS CLAVE

Priapismo;
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Tratamiento médico;
LUTS

Priapismo secundario a tratamiento con tamsulosina: caso clínico

Resumen El priapismo se define como una erección continua del pene sin ningún deseo sexual y con una duración de más de 4 horas. Este fenómeno representa una emergencia médica que requiere tratamiento urgente y puede ser seguido por la fibrosis de los cuerpos cavernosos y la impotencia permanente. El priapismo puede dividirse en tres subtipos dependiendo de la causa y puede ser inducido por ciertos agentes.

Presentamos un caso de priapismo inducido por tratamiento con tamsulosina en un paciente con síntomas del tracto urinario inferior obstructivos (STUI) y también revisamos la bibliografía pertinente.

El priapismo secundario a tratamiento con tamsulosina es un evento raro que raramente se ha reportado en la literatura. En los casos de priapismo secundario a tratamiento médico, la interrupción del tratamiento debe evitar nuevos eventos.

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Introduction

Priapism, defined as a continuous erection of the penis without any sexual desire and with a duration of more than 4h, was first described in 1845.¹ It can be divided into three subtypes: veno-occlusive (ischemic, low flow), intermittent (stuttering) and arterial (non-ischemic, high flow).²⁻³

Induced priapism may appear as a side-effect of intracavernosal injection (papaverine, prostaglandin E, phentolamine or a combination thereof) or drug ingestion (antidepressants, alpha-adrenergic blockers,⁴⁻⁸ marijuana,⁹ androstenediol and sympathomimetic agents [both alpha- and beta-mimetic agents]); it can also occur as a result of heparin treatment or secondary to some other diseases, including leukemia, sickle cell anemia, perineal and penile trauma and abscess of the corpora cavernosa. Although differentiation of the forms of priapism might appear a straightforward task, the etiology remains unknown in about 50% of cases while, in the case of induced priapism, the cause is known to be iatrogenic.

When priapism is prolonged for more than 4–6h, it may be accompanied by pain and represent a medical emergency requiring urgent treatment: if untreated, it may be followed by fibrosis of the corpora cavernosa and, ultimately, permanent impotence.

Here, we present a case report and review the literature concerning priapism secondary to tamsulosin treatment.

Case report

A 67-year-old man, without relevant medical or surgical antecedents except for a vasectomy in 1997 and a treatment for benign prostatic hyperplasia with tamsulosin 0.4mg once daily since November 2011, presented emergency at our institution on May 2013 with a priapism and a history of recurrent painful penile erection of about 6–12h of duration each. During the interview, the patient denied ingesting other drugs or toxic substances and reported no intracavernous injection of medications or previous pelvic or abdominal trauma. Physical exploration of the genitals revealed a normal aspect and absence of any relevant findings, except for a full erected penis and a palpable fibrosis.

During the first observed episode of priapism, dated December 2011 and which lasted about 16h, intracavernous injection of a vasoconstrictor was performed (3 cc adrenaline 1:200,000) followed by aspiration of cavernosal blood and irrigation of the corpora cavernosa with saline solution; finally, because of the persistent erection, a Winter shunt was performed, with success. After this first episode, the patient presented with recurrent episodes (a total of six) during the following 2 years, some of which were self-limited and lasted 2–4h while others required emergency treatment at a medical center near his home. During the last episode, occurred in May 2013, the patient attended the emergency unit at our

institution with a priapism lasting about 6h. A sample of cavernosal blood was sent to our laboratory and showed pO₂ 9.7 mmHg, pCO₂ 89 mmHg. Color Doppler ultrasound shown low-flow priapism. An intracavernosal injection of vasoconstrictor was performed and ultimately irrigation of the corpora cavernosa with saline solution resolved the emergency producing detumescence. Patient was hospitalized for study.

During reconstruction of the disease course, the patient declared that the episodes of priapism started in 2011 and that he never had previously this kind of problem. The first episode was dated about 3–4 weeks after starting treatment for his lower urinary tract symptoms (LUTS) with tamsulosin, suggesting a correlation between drug ingestion and the appearance of the episodes of priapism. We decided to suspend medical treatment with tamsulosin (substituted with phytotherapy for his LUTS) and during follow-up over the next 9 months the patient presented no further episodes of priapism.

Discussion

It is described that alpha-blockers inhibitors such as tamsulosin has been used to provoke smooth muscle cells relaxation and, sometimes, it may have a role also in cavernous smooth cells.

Various modulators and transmitters have a role in the pathophysiology of erection, erectile dysfunction and priapism. It is also known that administration of mediators that inhibit contraction of penile cavernosal smooth muscle cells can give rise to secondary priapism. In rare instances, priapism has been reported in patients receiving alpha-adrenergic blockers such as prazosin, terazosin and doxazosin,⁴ and a few articles have reported tamsulosin to be among the agents that may be involved in the pathogenesis of priapism.^{6,8,10}

Tamsulosin is a subtype of the selective alpha-blockers (it is an antagonist of alpha-1-adrenoreceptors) that is effective in treating the symptoms of BPH and also appears to exert some pharmacological effect on smooth muscle cells of the corpora cavernosa.⁶ The mechanism responsible for priapism is probably an alpha-adrenergic blockade which directly inhibits the sympathetic impulse of detumescence.^{4,11} This drug is the only alpha-blocker for which a placebo-controlled study has proved a positive effect on overall sexual function.¹¹ In the described case, the temporal relation between ingestion of tamsulosin and manifestation of priapism strongly suggests a causal relationship.

Tamsulosin is a very commonly used drug that is now also available as a generic drug in many countries and has been used for a number of years to improve LUTS, usually in patients with associated obstructive symptoms.¹² As indicated by reports in the literature, we believe that priapism secondary to tamsulosin treatment is indeed a rare event but we nevertheless consider that patients should be advised about potential for priapism subsequent to ingestion of tamsulosin or similar agents.

Conclusion

Priapism secondary to tamsulosin treatment is a rare event that has seldom been reported in the literature. The mechanism of action is unclear, but the priapism may arise due to a pharmacological effect on smooth muscle cells of the corpora cavernosa. Despite the limited frequency of this pathological finding, patients should be advised about the possibility upon prescription of tamsulosin or similar agents. In cases of priapism secondary to medical treatment, interruption of treatment will avoid further events.

Ethical disclosures

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

Conflict of interest

The authors declare no conflict of interest.

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