Drotaverine-induced priapism

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INTRODUCTION

Drug-induced priapism accounts for 30% of all the cases of priapism.[1] These include psychotropic drugs, antihypertensive drugs, and heparin. In papaverine/phenolamine/alprostadil intracavernous injection programs, prolonged erections have been reported in 5%–35% of the patients.[2]

CASE REPORT

A 40-year-old married male presented with persistent painful erection lasting for 8 days. He did not have diabetes or hypertension and was not on any medications. About 9 days earlier, he presented to a surgeon with left ureteric colic. Preliminary investigations revealed a left lower ureteric stone of 5 mm with no upstream dilation. Complete blood counts ruled out blood disorders such as sickle cell anemia, leukemia, and thrombocytosis. Reticulocyte count, prothrombin time were also normal. There was no history of papaverine injections or drug abuse and urine screening for toxic drugs such as morphine was not performed.

The only drug he received was tablet drotaverine 80 mg twice daily for 5 days. The first dose was taken at 7 p.m and on waking up next morning the patient noticed tumescence in the penis. He ignored it, the colic had settled and so he attended his office for the next 2 days, and continued to take drotaverine. He denied having sexual contact or genital stimulation during or after the colic. He had no addictions and was not using any recreational drugs.

By the 5th day, he had developed painful persistent erection, consistent with priapism, associated with poor urinary flow and incomplete voiding. He was then referred to us for further management. On arrival, 9 days after the onset of tumescence, the patient was stable and the penile color Doppler showed no flow in the penis [Figure 1] which confirmed ischemic priapism.

Several attempts to aspirate the cavernosum under general anesthesia failed to draw blood, even for the blood gas study. The patient underwent El-Ghorab shunt surgery. The incision was made on the glans, distal to the corona. Both the cavernous bodies were filled with dark blood and clots. Cavernotomies were made on the distal most part and 5–7 mm of tunic was excised. All the clots and dark blood were milked out from the base of the penis up to the tip which resulted in detumescence of the penis. Glans was sutured with 4/0 polydioxanone suture, and a Foley catheter was placed. Compression dressing was applied. Histopathology of the cavernosal tissues on both the sides showed changes consistent with ischemic priapism [Figure 2].

ABSTRACT

Drug-induced priapism is well known and papaverine is the most common drug known to cause priapism. Drotaverine, an analog of papaverine, is used extensively to treat Colicky pain. We report the first case of drotaverine-induced priapism.
DISCUSSION

Papaverine and drotaverine belong to the same class of drugs. Drotaverine is an isoquinoline derivative, inhibits PDE5 which, in turn, increases cyclic adenosine monophosphate, and causes smooth muscle relaxation.\(^3\) Whereas papaverine has an elimination half-life of 0.5–2 h, drotaverine has a half-life of 7–16 h and is excreted in urine (50%) and in bile (30%). In a study by Bolaji et al., the absolute bioavailability of drotaverine was variable and ranged from 24.5% to 91%, with a mean of 58.2%. It is suggested that the high variation in the bioavailability of drotaverine after oral administration may result in significant inter-individual differences in the therapeutic response.\(^4\)

Drotaverine is also a potent cervical dilator and is used in obstetrics. Physicians have used this drug routinely and extensively for treating biliary and ureteric colic. However, there is no reported case of drotaverine induced priapism in literature. A limitation of our report is that the blood levels of drotaverine were not obtained when he presented with priapism due to lack of suspicion.

CONCLUSION

While prescribing drotaverine in men, particularly in the sexually active group, one may encounter a case of penile tumescence. Patients need to be educated and warned about this side effect, albeit rare, while prescribing the drug. Prompt intervention can prevent untoward complications like priapism.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Acknowledgement

The Authors acknowledge the help of Dr. Surpiya Dutta, Chief Pathologist Jupiter Hospital, in this case report.

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