Priapism in a Healthy Male: A Rare Side Effect of Herbal Medicines Containing *Withania somnifera*

Sanjeev Chauhan, Kirti Rana, *Manjeet Kumar, Pamposh Raina, Kailash C Barwal, Girish K Sharma
Department of Urology, IGMC, Shimla, HP, India.

***Correspondence:** manjeetkumar.1014@gmail.com

Received: Jun 24, 2021; Accepted: Sep 20, 2021

CITATION: Chauhan S, Rana K, Kumar M, Raina P, Barwal KC, Sharma GK. Priapism in a Healthy Male: A Rare Side Effect of Herbal Medicines Containing *Withania somnifera*. Recent Adv Biol Med. 2021;7(3):9800015. https://doi.org/10.18639/RABM.2021.9800015

ABSTRACT
Priapism is an uncommon urological emergency. Drugs are known causes of priapism. Self-medication and use of over-the-counter drugs are very common in India. *Withania somnifera* is common over the counter herb used in India for anxiety, depression, boosting immunity, infertility, etc. Despite the unprohibited and over-the-counter use of drug, the efficacy and adverse events data are not available. We report a patient of anxiety and depression self-medicating with *W. somnifera* and multivitamins presenting with ischemic priapism.

KEYWORDS: Self-Medication; Priapism; Over the Counter; *W. somnifera*.

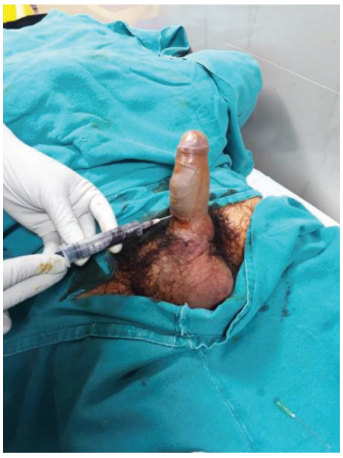
1. INTRODUCTION

Priapism is an erectile disorder characterized by persistent tumescence or undesired painful erection of the penis without any stimulation or beyond sexual stimulation and orgasm lasting >4 hours. It is an uncommon urological emergency. There are three main types of priapism: ischemic (veno-occlusive or low-flow), nonischemic (arterial or high-flow), and recurrent ischemic (intermittent or stuttering). Ischemic type is most common and with profound consequences. Ischemic priapism accounts for more than 95% of all cases. Although idiopathic, hematological, trauma, malignant infiltration of the penis, and drug-induced are common causes. Self-medication of over-the-counter drugs, especially ayurvedic drugs, is prevalent in this part of the world. These self-medicated drugs are associated with severe adverse effects [1-3]. We report a case of ischemic priapism as a result of multiple over the counter ayurvedic drugs.

2. CASE SUMMARY

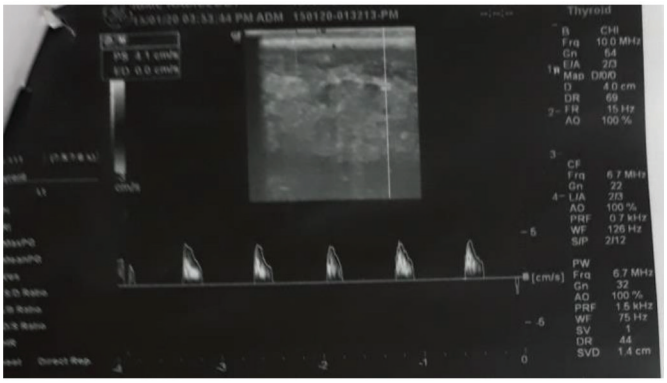
A 42-year-old male presented with painful, persistent erection of penis for 1 day (Figure 1). He has been self-medicating and taking prescriptions from a chemist for anxiety and depression. He has been self-prescribing multiple herbal medications in the form of syrups and capsules. He was taking five over-the-counter medications—Ashwagandha, Bpright, Memon, Zincovit, and Megamind.

Figure 1: Shows diagnostic aspiration of blood from erect penis.



There was no history of trauma, sickle cell disease, malignancy, injectables, insect bite, or any other drug intake. On examination, vitals were stable, the penis was erect, rigid, dusky brown, and tender, but glans was normal. He has been investigated with complete hemogram and peripheral smear which was found to be normal. Color Doppler study showed engorged sinusoids in the right corpora cavernosum with no arterial flow seen in right cavernosal artery (Figure 2). The left cavernosal artery shows color flow on power Doppler with peak systolic velocity of 4.5 ml/s. Bilateral corpora cavernosum were filled with echogenic contents.

Figure 2. Ultrasound Doppler shows minimal or no flow in penis.



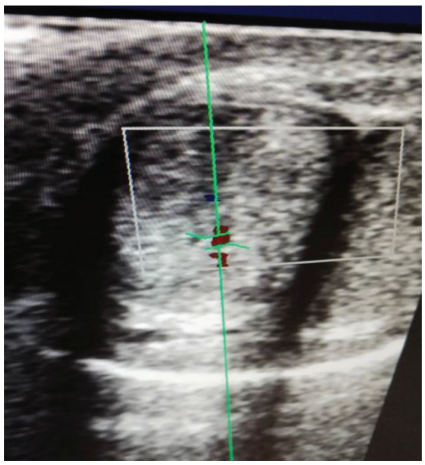
The patient was taken to emergency operation theater and planned for aspiration. Corporeal blood aspirate was dark red with crankcase oil appearance sent for pH, PO2, and PCO2. Corporeal blood gas report was suggestive of hypoxemia, acidosis, hypercarbia, i.e., pH 7.05, PO2 36 cmH2O, PCO2 65 cmH2O.

Penis was aspirated with 10 cc syringe multiple times and injected with phenylephrine 200 umg/ml till 1 mg (Figure 3). Despite multiple aspirations, complete detumescence could not be achieved. Patient's penile blood gas study showed acidosis, hypercarbia, and hypoxia. He was initially managed with aspiration of deoxygenated blood with wide bore needle followed by intercavernosal injection of phenylephrine. Complete detumescence could not be achieved and planned for distal percutaneous shunting. Distal percutaneous shunt bilaterally (T shunt) was created with 10 no. blade. Deoxygenated blood was milked out and skin closed with catgut 2-0. Complete detumescence could not be achieved (Figure 4). Detumesence was achieved after T shunt. The patient was followed with corporeal blood gases.

PO2 82, PCO2 34 cmH2O, pH 7.34. Color Doppler showed cavernosal blood flow with q max 25 ml/min in bilateral corporeal arteries.

Figure 3: Serial therapeutic aspiration of blood from erect penis.

Figure 4. Improved flow in cavernosal artery after aspiration and shunting.



3. DISCUSSION

Priapism is defined as a persistent and painful erection of penis lasting more than 4 hours beyond sexual stimulation and orgasm, or without any sexual stimulation. The incidence of priapism is reported to be around 0.3 to 1.0 per 100,000 males per year [1,4]. It is of three types: ischemic, nonischemic, and shuttering types. Various causes are: idiopathic, iatrogenic (such as intracavernosal injection of prostaglandin E2 or papevarine), leukemia, alpha-adrenergic receptor antagonists, antidepressant and antipsychotic, leukemia's, malignant lymphoma, and metastasis. Ischemic priapism is characterized by persistent erection of the penis marked by corporal rigidity and absence of cavernosal arterial flow. It is a urological emergency, and immediate intervention is mandatory. Venous stasis and increased blood viscosity lead to compartment-like syndrome, ultimately leading to ischemia. Ischemic priapism becomes painful after 6 to 8 hours with persistent erection. Consequent penile tissue damage leads to permanent erectile dysfunction, and corporal fibrosis may occur as a consequence. History is important for diagnosis and helps in understanding the etiology. Blood investigations in the form of complete blood count and peripheral smear help rule out anemia, leukemia, and infection and detect any hematological abnormalities. Color Doppler ultrasonography shows no blood flow in cavernosal arteries. Penile blood aspiration shows hypoxia ($PO_2 < 30$ mmHg), acidosis (pH < 7.25) and corporal tissue ischemia ($PCO_2 > 60$ mmHg). Using a stepwise approach to treat priapism is recommended. The first line of management is corporal aspiration using a large bore needle. Corporal aspiration should be done until dark red venous blood becomes bright red arterial blood. It is followed by intracavernosal injection of sympathomimetic drug, e.g., phenylephrine. Surgical management in the form of shunting is recommended if conservative management fails or the duration of priapism is more than 48 hours [1,5,6].

In our country, self-medications with over-the-counter drugs are very prevalent. These medications are available with no control over sales. The effects and side effects of these drugs are not well studied. Minimal literature is available for these drugs. The benefits and adverse effects are not reported.

Ashwagandha (*Withania somnifera*) is one of common over-the-counter drugs used for anxiety, depression, increasing immunity, etc. Limited data are available regarding its potential effect and adverse effects. These medications are taken in excess, and combinations are prevalent [4].

Our patient had anxiety and took multiple drugs containing *W. somnifera* and multivitamins. He developed priapism as a result of the use of excessive dosages especially combinations of drugs. The patient required a distal percutaneous T shunt for detumescence. Over-the-counter medications are associated with side effects, so their use should be limited. Studies should be conducted for effectiveness and safety of these medications. Sale and self-medications of these drugs should be controlled until sufficient evidence is available for these drugs and combination. Our patient was using over-the-counter multiple drugs, mostly containing herbs *W. somnifera, Rauwolfia serpentine,* etc. for depression. These herbs are aphrodisiac and should be taken with expert advice.

4. CONCLUSION

Acute ischemic priapism is an emergency urological condition which requires urgent intervention to prevent cavernosal ischemia, subsequent corporal fibrosis, and erectile dysfunction. Self-medications with over-the-counter drugs are very common in India. The use of these drugs is unrestrained and superfluous. Prescriptions of these drugs are not monitored, and they can be associated with significant side effects. Benefit and adverse events of these drugs are infrequently reported. Studies should be conducted for these over-the-counter medications, especially *W. somnifera*. Sale and self-medications of these drugs should be controlled until sufficient evidence is available for these drugs.

CONFLICT OF INTEREST

None.

REFERENCES

1. Wein AJ, Kavoussi LR, Campbell MF, Walsh PC. Campbell-Walsh Urology 10th edition. Philadelphia, PA: Elsevier September 8, 2011.
2. Shigehara K, Namaki M. Clinical management of priapism: a review. World J Mens Health. 2016;34(1):1-8. doi: 10.5534/wjmh.2016.34.1.1
3. Ralph DJ, Garaffa G, Muneer A, Freeman A, Rees R, Christopher AN, *et al.* The immediate insertion of a penile prosthesis for acute ischemic priapism. Eur Urol. 2009; 56(6):1033-1038. doi: 10.3109/21681805.2015.1059359
4. Nayak BN, Buttar, HS. Herbal therapy for men with erectile dysfunction. Curr Res Cardiol. 2016; doi: 10.4172/2368-0512.1000025.
5. Sibarani J, Syahreza A, Wijayanti Z, Atik N, Rachmadi D. Malignant priapism induced by adenocarcinoma of the prostate. Urol Case Rep. 2019;101102. doi: 10.1016/j.eucr.2019.101102
6. Reddy AG, Alzweri LM, Gabrielson AT, Leinwand G, Hellstrom WJG. Role of penile prosthesis in priapism: a review. World J Mens Health. 2017;17040. https://doi.org/10.5534/wjmh.17040