

Case Report

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Propofol Induced Priapism in Pediatric Population: About Two Cases



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Abstract

Propofol is a hypnotic/sedative widely used in the anesthesia field and intensive care units. However, despite its efficacy and pharmacodynamic benefits, many adverse events have been reported since its use began, varying in severity and importance. Recently several cases of propofol induced priapism in the pediatric population were described. We will report the case of two pediatric patients who presented a priapism following the administration of propofol in different situations and discuss these findings with literature.

Keywords: Propofol, Priapism, pediatric population

Introduction

Propofol is a sedative drug that is used widely to induct anesthesia and sedate patients in the ICU, its pharmacodynamic characteristics, makes it the ideal drug to use for many anesthesiologists and intensive care doctors. However, even though that the side effects are less frequent but some of them are fatal and dangerous. It goes from a simple rash to catastrophic events [1].

Priapism is known to be one of the rarest side effects of propofol use. We are here to report two cases of Propofol induced priapism in pediatric population.

Case Reports

Case N1

A 3 years old patient with no history of previous illness, was presented to the operation room to undergo a circumcision. The preoperative anesthesia checkup revealed no objection to undergo the procedure.

In the operating room, the patient was monitored, the vitals were stable. First the patient was sedated by sevoflurane, in order to get an intravenous access, and then propofol was injected at the

dose of 4 mg/kg. The laryngeal mask was inserted and verified by auscultation and the capnography.

However, 3 minutes after the administration of the propofol and before the penile block. The patient presented a priapism which that lasted about 4 minutes before resolving spontaneously (Figure 1).

Case N2

A 7 years old patient, with no history of previous illness, was presented to emergency department with generalized seizures and fever. The parents reported that their son had fever and cough 7 days before and was put under treatment by his pediatrician. However, his condition didn't improve, and he presented a conscious loss and started to have seizures with no gain of consciousness.

The examination found an unconscious patient with normal pupils, a temperature at 40 °C, elevated heart rate at 160 beat per minute, normal blood pressure at 130/70 mmHg, and normal SpO₂ at 96%.

In front of these finding we decided to intubate the patient and stabilizing him for further investigation. We used propofol at the

dose of 4mg/Kg, rocuronium at 1,2 mg/kg and fentanyl at 4ug/kg. Moments after the administration, the patient presented a priapism that lasted for minutes (Figure 2) and then disappeared moments after that with no recurrence in time. The final diagnosis

retained was a bacterial meningitis and the patient was discharged from the hospital days after the completion of the treatment with no after-effects.



Figure 1: The picture of the priapism: patient of case 1.



Figure 2: The picture of the priapism: patient of case 2.

Discussion

Priapism is a pathologic engorgement of the penis in the absence of sexual arousal. It is classified as a low-flow, ischemic state or a high-flow, nonischemic state. Low-flow priapism is the more common of the 2 states and is characterized by lack of venous drainage from the corpora cavernosa, vascular stasis, acidosis, and tissue hypoxia [2]. Many pathological states cause priapism going from hematological malignancies and disorders, trauma, and even

following the use of certain drug.

Propofol has been described to cause priapism as a side effect of its administration, The exact mechanism by which propofol may cause priapism is unknown. Sweni et al. hypothesized that propofol may cause priapism by acting both centrally in affecting NMDA receptors, GABA, serotonin, and dopamine, and locally by increasing nitric oxide smooth muscle relaxation [3].

Even though the direct causality is not totally established, propofol induced priapism was reported many times in the literature [2,4-6] The temporal relationship and the lack of other explanation and the spontaneous resolution after the withdrawal of propofol are all in favor of the authenticity of this side effect.

In our patients, and using the Naranjo scale [7], which created a probability scale to determine if an adverse reaction is due to a specific medication. The timing of the priapism, the duration and the resolution of the priapism spontaneously are all in favor of a propofol induced priapism.

Conclusion

We had the chance that our patient did not need a medically or a surgically intervention to correct this uncommon side effect. However, others as reported in other cases, needed that kind of treatment. Propofol as a drug which widely used in adult and pediatric population should be well studied and documented, the report of such cases makes it easy for clinicians to act in front these situation.

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Conflict of interest

The authors declare no competing interests

References

1. Vasileiou I, Xanthos T, Koudouna E, Perrea D, Klonaris C, et al. (2009) Propofol: a review of its non-anaesthetic effects. *Eur J Pharmacol* 605(1-3): 1-8.
2. Doherty AN, Khandhar PB (2015) Propofol-Associated Priapism in a Pediatric Patient. *J Pharm Technol* 31(2): 91-93.
3. Sweni S, Meenakshisundaram R, Senthilkumaran S, Thirumalaikolundusubramanian P (2011) Propofol's derivative: a potential drug for erectile dysfunction? *Med Hypotheses* 77(4): 668-670.
4. Majdoub A (2017) Propofol Induced Priapism: Case Report. *J Anest & Inten Care Med* 3(3): 555614.
5. Savoie C, Rajanna V, Khandhar P (2019) Propofol-Associated Priapism in a Prepubescent Pediatric Patient. *Glob Pediatr Health* 6: 2333794X19859731.
6. Vesta KS, Martina SD, Kozlowski EA (2006) Propofol-Induced Priapism, a Case Confirmed with Rechallenge. *Ann Pharmacother* 40(5): 980-982.
7. Naranjo CA, Busto U, Sellers EM, Sandor P, Ruiz I, et al. (1981) A method for estimating the probability of adverse drug reactions. *Clin Pharmacol Ther* 30(2): 239-245.



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