

## Seizures Like Phenomenon With Propofol-A Case Review

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### ABSTRACT:

Adverse drug reaction (ADR) apart from affecting the patient's quality of life, also lead to delayed treatment, unnecessary investigations, and even increase in both morbidity and mortality. A rare adverse drug reaction due to propofol has been reported from our institute and has been discussed here. An eleven year child with symptomatic deviated nasal symptoms came to otorhinology department and planned for septoplasty. On the day of surgery, as soon as propofol was given to the patient, he developed seizures like phenomenon (SLP) although recovered without causing any injury. Propofol is anticonvulsant but it rarely can be pro-convulsant. So proper vigilance is needed while using this drug to avoid complications.

**Key-words:** Propofol, Seizures, Adverse effect.

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### INTRODUCTION

Propofol is one of the commonest widely used anaesthetic and sedative agents now days. Because of its two important features, i.e. lack of accumulation and short recovery time it is considered as a gold standard for numerous day care procedures.<sup>1</sup> As we know there is no drug in pharmacology which is without adverse effect, so is propofol. Pain at injection site,<sup>2</sup> bradycardia, arterial hypotension<sup>3</sup> and respiratory depression<sup>4</sup> have commonly reported adverse effects. Apart from these seizures like phenomenon (SLP), although rare also has been related to it.<sup>5</sup> We also have come across that rare adverse effect and so we are discussing it.

### CASE-REPORT

An eleven year child came to otorhinology department with nasal obstruction from one month. On examination deviated nasal septum was diagnosed and planned for septoplasty. The patient had no previous medical, surgical

history, no history of epilepsy, drug abuse, drug allergy, hepatic and kidney damage. His routine blood and urine investigations were within normal limits. In the operating room monitoring included electrocardiogram, pulse oximetry, noninvasive blood pressure and capno-graphy was done. The patient was pre-oxygenated and injection midazolam along with tramadol was administered slowly. Anesthesia was induced with injection propofol (25mg/kg) slowly (contain preservative free lidocaine). Immediately he developed involuntary movements of both upper limbs and lower limbs. The drug was stopped. Assisted ventilation was given with 100% oxygen. Vitals were stable. He regained consciousness in seven minutes with complete recovery in fifteen minutes. Again planned surgery was proceeded with thiopentone 200mg. Then trachea was intubated after achieving neuromuscular blockade with injection vecuronium bromide 4mg. Throughout the surgery patient remained hemodynamically stable. Intraoperatively,

blood sugar, serum electrolytes and arterial blood gas analysis were normal. At the end, residual neuromuscular blockade was reversed and trachea was extubated when the patient was fully conscious and had regular spontaneous breathing. He was shifted to a postanesthesia care unit for further management. Postoperatively, there was no evidence of post-ictal phase, serum electrolytes were normal. Neurology consultation was taken which revealed no neurological abnormality. The patient had an uneventful recovery.

## DISCUSSION

Now a days every patient wants day care procedures and no doubt propofol is an important inducing agent in this scenario. Among various common adverse effects the SLP, pertaining to central nervous system is rare one. SLP, includes generalized tonic-clonic seizures, focal motor seizures, increased muscle tone, myoclonus and opisthotonus.<sup>5</sup> Although these adverse drug reactions seldom produce any neurological sequelae but dislodgement of intravenous cannula and laryngeal mask airway may occur. It has been observed in various studies that SLP occur whenever there is change in the cerebral concentration of propofol as indicated by the time point of the occurrence of SLP which occur only during induction or delayed and never during maintenance.<sup>6</sup> Any activity related to either an increase of excitatory neurotransmitters (glutamate, aspartate), a decrease of inhibitory neurotransmitters (GABA, glycine) or a neuronal hyperexcitability (pentylene-tetrazol) may be linked with an epileptic seizure. Many drugs like methohexitone, ketamine, enflurane, high-dose opioids, and local anaesthetics have been reported to cause seizures. Different mechanisms underlying these neurological adverse drug reactions have been proposed. One accepted is that propofol induces an imbalance between excitatory and inhibitory pathway or between cortical and subcortical structures in the brain. It specifically acts on a subcortical region of

the spinal cord as glycine and acts as an antagonist like strychnine. These types of effects are more pronounced at early induction or late recovery from anaesthesia related to low plasma levels of the drug. There may be differences in pharmacogenetics responsible for that phenomenon.

## CONCLUSION

The action of propofol regarding convulsions is still controversial. Although several case reports of post-propofol 'seizures' have shown propofol having proconvulsant action. But we are just predicting it for confirmation of it there is a need of a collection of large amounts of data. So that we can identify the patients at risk and quality of life can be improved.

**Conflict of Interest:** Nil.

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