

# PSYCHO-MIMETIC MANIFESTATIONS FOLLOWING PROPOFOL IN DAY CARE SURGERY

- Case Reports -

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## Abstract

*Objectives:* Propofol has virtually replaced other agents for induction of anesthesia in the ambulatory setting because of its favorable recovery profile. Psycho-mimetic effects, common after use of ketamine, are not so well known for propofol. We present two case reports where patients had two spectrum of abnormal psychological outbreaks after propofol anesthesia.

*Case Reports:* Two healthy young patients were scheduled for short day care procedures under general anesthesia. In both cases anesthesia was induced with propofol plus fentanyl and maintained with inhalational anesthetic agents. After uneventful completion of surgery, both patients were transferred to recovery room where they manifested unusual psycho-mimetic reactions. The first patient had emotional outburst in the form of crying and the other had violent reaction requiring haloperidol for control.

*Conclusion:* Psycho-mimetic reactions can occur after anesthesia using propofol in the short duration day care procedures, in patients with or without preexisting psychiatric problems, needing antipsychotic medications for control.

**Key Words:** Case report, Emotional outbreak, Propofol anaesthesia, Day Care surgery.

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## Introduction

Propofol has replaced other agents for induction of anesthesia in the ambulatory setting because of smooth, fast and clear headed recovery. Contrastingly, subhypnotic concentration of propofol has been reported to result central nervous system (CNS) adverse effects including perioperative mood alterations. We describe two such incidences where patients developed unusual psycho-mimetic manifestations during recovery from short general anesthesia using propofol as induction agent.

### Case 1

A 23 year old lady, ASA I, weighing 46 Kg, was scheduled for day care anal sphincterotomy. Sedative pre-medication was withheld. Anesthesia was induced with intravenously fentanyl 100 microgram and propofol 100 mg and maintained with 60% N<sub>2</sub>O in O<sub>2</sub> and isoflurane along with incremental doses of propofol and fentanyl. She was kept on spontaneous ventilation with mask and oropharyngeal airway. Duration of operation was approximately 20 minutes and it was uneventful. Total amount of propofol and fentanyl used were 150mg and 150microgram respectively.

She behaved abnormally recovery from anesthesia. There was no response to verbal command even though she was opening her eyes. Shortly after that she started weeping and later cried loudly. She was asked repeatedly whether she was feeling pain, but the answer was always negative. Her emotional outburst was settled after reassurance from us. Later she was shifted to PACU for further monitoring.

In PACU, a detail history was taken by a female doctor. It was found that she was under constant stress starting from her marriage. She became pregnant immediately after her marriage and was being abused constantly by her in-laws.

### Case 2

A 29 years old female patient, ASA I, 50 Kg, diagnosed case of incomplete abortion and was scheduled for emergency suction and evacuation. Premedication was withheld.

General anesthesia was induced with intravenous

fentanyl 100microgram and propofol 120mg. Size three proseal LMA was inserted and anesthesia was maintained with 60% N<sub>2</sub>O in O<sub>2</sub> and incremental doses of propofol and fentanyl when necessary. Inhalational agent was avoided. Spontaneous ventilation was used. Surgery was completed uneventfully in fifteen minutes. Total dose of propofol used was 180mg. She was shifted to PACU after she became awake and stable.

In the PACU she behaved abnormally, struggling and trying to jump out from bed. Initially it was thought because of pain. So, incremental doses of fentanyl were given. But even after additional 100microgram of fentanyl there was no change in behavior. Attempt to resist the patient made her more violent. She started using offensive filthy words and thrashing the nursing staff. At this time haloperidol 2.5mg was given intravenously. After that she gradually became quite. Rest of her stay in the recovery as well as general ward was uneventful.

Next morning she became fully awake and co-operative. But she was not able to recollect the previous event. Later, a detail history was taken from the patient as well as relative by the psychiatrist and it revealed that she had a history of claustrophobia and bed wetting till the age of nine years.

## Discussion

Psycho-mimetic and emotional reactions are known side effects of ketamine, but they are not so well known with propofol.<sup>1,2</sup> Sub-hypnotic concentrations of propofol can produce CNS adverse effects like postoperative alteration in mood. Patients emerging from propofol anesthesia were more likely to exhibit sensation-seeking tendencies (e.g. adventurous, daring, energetic) and to feel elated and even euphoric.<sup>3,4</sup> It may result in dream and hallucination in day care setting.<sup>5</sup> Even sexual hallucination and opisthotonos have been reported.<sup>6,7</sup>

To date, no incidence of emotional or psychological outburst has been reported in literature. Both of our patients behaved normally during pre-anesthetic assessment and did not show any signs or symptoms of psychiatric disorders. The anesthesia technique used was well established for short duration day care procedures and none of the

agents used for anesthesia other than propofol could have promoted these psycho-mimetic effects. Thus a probable deduction is that propofol may have caused suppression of inhibitory areas of brain that resulted in outburst of long term emotional stress, which was not revealed earlier (as in 1<sup>st</sup> case) and expression of some hidden psychological behavior (as in 2<sup>nd</sup> case). Also the inherent psychogenic effects of propofol (mentioned earlier) may have played a role here. Probable explanation of its occurrence in day care cases is that lack of proper preanesthetic counseling and avoidance

of premedication may have resulted in expression of psychological phenomenon in the setting of propofol induced inhibition of higher centers of CNS and its inherent psycho-mimetic effect.

### Conclusion

Emotional and psycho-mimetic reactions may occur after propofol anesthesia especially in day care patients with background history of chronic stress and psychological disorders.

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