CASE REPORT

Anaesthetic management of a patient with morvans syndrome.

Authors:
Dr Jesna, Junior resident
Dr Daber Pareed, Associate Professor
Dr Sunny Alex, HOD and professor, KMCT Medical College,Mukkam,Kerala,673602

Corresponding Author:
Dr Jesna A P
jesnajamsheed2016@gmail.com

Submitted: 05 Oct 2025
Revised: 14 Oct 2025
Accepted: 20 Oct 2025
Published: 05 Nov 2025

How to cite this article: Jesna, Daber Pareed, Sunny Alex. Anaesthetic management of a patient with morvans syndrome. TAISAK 2025; 1(2): 63-65

Access This Artile Online

Website:
theanaesthesiologist.com

ABSTRACT

Morvan syndrome is a rare condition distinguished by hyperactivity within the central, autonomic, and peripheral nervous systems. Due to the limited number of cases, this presents clinical challenges stemming from the scarcity of published literature. We present a successful anesthetic approach for a patient diagnosed with Morvan syndrome scheduled for elective TURP. The patient had being diagnosed 6 months before the surgery when he was evaluated for insomnia, hyperhidrosis, generalized body pain, paresthesia more in bilateral lower limbs.

Keywords: laryngospasm, local anesthetic, neuromuscular blockade, risk of malignant hyperthermia, dysautonomia, anesthesia management, Morvan's syndrome.

Introduction

Morvan's syndrome is a rare condition primarily diagnosed through clinical evaluation. It is frequently linked with autoantibodies targeting voltage-gated potassium channel complexes (VGKCs). The typical manifestations encompass hyperexcitability of the central nervous system (including neuropsychiatric features such as insomnia, confusion, amnesia and hallucinations), the peripheral nervous system (involving neuromyotonia and neuropathic pain), and the autonomic system (characterized by dysautonomia with symptoms like hyperhidrosis and cardiovascular instability) . Herein, we present a case illustrating a successful anesthetic management of Morvans Syndrome.

Case Presentation

A 53-year-old man chronic smoker with no known comorbidities diagnosed with Morvan syndrome was scheduled for TURP. The diagnosis of Morvan syndrome was established 6 months before when the patient began experiencing insomnia, generalized body pain, paresthesia more in bilateral lower limbs. Positive tests for contactin-associated protein-like 2 (Caspr2) antibodies were obtained. However, the patient was not tested for anti-acetylcholine receptor (Anti-AChR) antibodies, which are relevant in the context of the use of neuromuscular blockade drugs. He had underwent 5 cycles of plasmapheresis for the same.

Six months before our intervention the patient had a symptomatic resurgence marked by excessive sweating, insomnia, generalized body pain and neuromyotonia, which subsequently improved after 5 cycles of plasmapheresis. Electromyography revealed myokymic discharges in bilateral Vastus medialis, gastrocnemius and right deltoid. Nerve conduction study of bilateral lower limbs were within normal limits. CECT chest showed mild paraseptal

and centri lobar emphysema and fibtotic bands in left lower zone. CECT abdomen and pelvis, Echocardiography was normal. At the time of our surgery, the patient was under neurology consultation and receiving wysolone 20 mg/day, diltiazem 30mg/day and gabapentin 100mg/day.

Upon hospital admission, which occurred on the day before the surgery, the patient was asymptomatic with no recent episodes of hyperexcitability phenomena, changes in sleep patterns, or excessive sweating. The preoperative analytical assessment revealed no abnormalities, including thyroid function. Patient was asked to continue Prednisolone, diltiazem and gabapentin perioperatively.

The patient underwent TURP under graded epidural anesthesia. Epidural catheter was placed at L2-L3 space and tested using plain lignocaine. Anesthetic induction was with 0.5% ropivacaine with fentanyl as adjuvant (6ml) to achieve a sensory level of T10 followed by continuous infusion of 0.5% ropivacaine at 3ml/hour. Additionally, an arterial line was inserted for hemodynamic monitoring. The recommendations outlined in the American Society of Anesthesiologists (ASA) Standards for Basic Anesthetic Monitoring were followed. There were no signs of autonomic dysfunction perioperatively. The patient was transferred to the post-anesthesia care unit (PACU), where he remained for 24 hours after the surgery.

Discussion

Morvan's syndrome is a rare autoimmune neurological disorder characterized by peripheral nerve hyperexcitability (neuromyotonia), autonomic dysfunction, and encephalopathy with associated insomnia. The etiology remains poorly understood. There have been reports of its emergence following heavy metal poisoning, as paraneoplastic syndromes associated with thymomas in some cases with myasthenia gravis (MG) and other neoplasms (small-cell lung cancer, teratomas, prostate adenoma and carcinoma in situ of the colon). The association with elevated cerebrospinal fluid immunoglobulin G and oligoclonal bands, as well as against contactin-2 [1,3]. Experimental evidence suggests that these antibodies can induce neuronal hyperexcitability by inhibiting voltage-gated potassium outward currents required for the repolarization of the motor nerve [3]. Depending on the type of protein targeted by the antibodies, patients exhibit some phenotypic differences. Characteristics such as the presence of MG, weight loss, and thymomas are frequently associated with patients with anti-Caspr2
antibodies. On the other hand, the syndrome of inappropriate antidiuretic hormone secretion, delirium, mood changes, and myoclonus typically arise in patients with anti-LGI1 antibodies.

Contactin-2 is expressed in cardiac conduction tissue. Patients with anti-contactin-2 antibodies have exhibited signs of cardiovascular instability, including tachycardia and alterations in blood pressure [1,3]. Anti-AChR antibodies are also described in patients with thymoma who clinically present with Morvan syndrome but without concurrent MG. An increase in muscular activity, contrary to that observed in MG, was noted [3,7,8]. Anti-N-type calcium channels, antistriated muscle, and antititin antibodies have also been reported in a patient with Morvan syndrome with thymoma [7]. The most frequent symptoms of the syndrome involve the central nervous system including neuropsychiatric features such as insomnia, confusion, amnesia, and hallucinations. Peripheral symptoms commonly include neuromyotonia as well as neuropathic pain. Additionally, autonomic symptoms such as hyperhidrosis, and autonomic instability characterized by arrhythmias and hypertension, are often observed [1,3].

Anesthetic management of patients with Morvan's syndrome poses significant challenges due to potential autonomic instability, altered response to anesthetic drugs, and neuromuscular abnormalities. These patients may exhibit dysautonomia manifested by fluctuations in blood pressure, heart rate variability, excessive sweating, or temperature instability. Additionally, central nervous system involvement can cause altered mental status or agitation, which necessitates careful preoperative evaluation.

The decision to employ regional anesthesia (epidural anesthesia) in this patient was appropriate and advantageous. Epidural anesthesia provided good intraoperative analgesia and hemodynamic stability while avoiding the risks associated with sub arachnoid block, general anesthesia, such as hemodynamic instabilities like BP fluctuations, tachycardia/ bradycardia, potential interaction between anesthetic agents and autonomic dysfunction, altered response to neuromuscular blockers, and postoperative respiratory complications. The graded epidural technique with slow titration of 0.5% ropivacaine and fentanyl helped achieve a controlled sensory block (T10) without hemodynamic compromise. Continuous infusion allowed for stable postoperative analgesia and minimized autonomic fluctuations. Intraoperatively, no episodes of dysautonomia, arrhythmia, or hemodynamic instability were noted, which demonstrates the safety of carefully titrated regional anesthesia in such patients. Continuation of preoperative medications — particularly prednisolone, diltiazem, and gabapentin — was important to prevent symptom exacerbation and maintain autonomic balance.

Postoperative monitoring is critical in these patients due to the risk of delayed autonomic dysfunction or respiratory compromise secondary to neuromuscular involvement. In this case, the postoperative course was uneventful, indicating adequate anesthetic planning and monitoring.

CONCLUSION

Morvan's syndrome is a rare autoimmune disorder with multisystem involvement that poses unique challenges to anesthetic management due to potential autonomic dysfunction and neuromuscular instability. This case demonstrates that with thorough preoperative evaluation, continuation of baseline medications, and careful intraoperative monitoring, graded epidural anesthesia can be safely and effectively used for surgical procedures such as TURP in patients with Morvan's syndrome. The absence of intraoperative or postoperative complications highlights the importance of a tailored, vigilant anesthetic approach to ensure hemodynamic stability and optimal outcomes in such complex patients.

REFERENCES

1.Morvan syndrome: clinical and serological observations in 29 cases. Irani SR, Pettingill P, Kleopa KA, et al. Ann Neurol. 2012;72:241–255. doi: 10.1002/ana.23577. [DOI] [PubMed] [Google Scholar]
2.Neurophysiologic studies in Morvan syndrome. Josephs KA, Silber MH, Fealey RD, Nippoldt TB, Auger RG, Vernino S. J Clin Neurophysiol. 2004;21:440–445. doi: 10.1097/00004691-200411000-00008. [DOI] [PubMed] [Google Scholar]
3.Masood W, Sitammagari KK. StatPearls [Internet] Treasure Island (FL): StatPearls Publishing; 2022. Morvan syndrome. [PubMed] [Google Scholar]
4.Anesthetic management of robotic thymectomy in a patient with Morvan syndrome: a case report. Royston SE, Hartigan PM. A A Pract. 2021;15:0. doi: 10.1213/XAA.0000000000001383. [DOI] [PubMed] [Google Scholar]
5.Anesthetic management of patients with Morvan syndrome - a rare disorder. Singh S, Kumar R, Kumar S, Kaur M. Saudi J Anaesth. 2023;17:301–302. doi: 10.4103/sja.sja_592_22. [DOI] [PMC free article] [PubMed] [Google Scholar]
6.General anaesthesia in a patient with Morvan's syndrome. Tufail S, Stacey M. Anaesth Case. 2013;1:97–99. [Google Scholar]
7.Morvan's fibrillary chorea: a paraneoplastic manifestation of thymoma. Lee EK, Maselli RA, Ellis WG, Agius MA. J Neurol Neurosurg Psychiatry. 1998;65:857–862. doi: 10.1136/jnnp.65.6.857. [DOI] [PMC free article] [PubMed] [Google Scholar]
8.Neuromuscular, autonomic and central cholinergic hyperactivity associated with thymoma and acetylcholine receptor-binding antibody. Halbach M, Hömberg V, Freund HJ. J Neurol. 1987;234:433–436. doi: 10.1007/BF00314093. [DOI] [PubMed] [Google Scholar]
9.Morvan's syndrome: clinical, laboratory, and in vitro electrophysiological studies. Löscher WN, Wanschitz J, Reiners K, Quasthoff S. Muscle Nerve. 2004;30:157–163. doi: 10.1002/mus.20081. [DOI] [PubMed] [Google Scholar]