Frontiers in Health Informatics
ISSN-Online: 2676-7104
www.healthinformaticsjournal.com
2024; Vol 13: Issue 8
Open Access

A Case Report Of Anasthesia Management For Teeth Extraction In A Patient With Sjogren Syndrome

[1]Kaberi Behera A., [*2]Ramsesh Manohar Ram

[1]Kaberi Behera A., Postgraduate

Department Of Anaesthesia,Saveetha Medical College,Saveetha Nagar,Thandalam, Chennai Bangalore, Nh 48, Chennai ,Tamilnadu: 602105

Email- Kaberibehera127@Gmail.Com

[*2]Corresponding Author Name :

[*2]Ramsesh Manohar Ram

Designation: Associate Professor Department Of Anaesthesia,

Saveetha Medical College

Email- Dr.Ramsesh@Gmail.Com

Cite this paper as: Kaberi Behera A., Ramsesh Manohar Ram, (2024) A Case Report Of Anasthesia Management For Teeth Extraction In A Patient With Sjogren Syndrome. *Frontiers in Health Informatics*, *Vol.13* (8) 2535-2537

ABSTRACT

Sjogren's syndrome, which is recognized as one of the most prevalent autoimmune disorders affecting individuals, exhibits a notable tendency towards a higher incidence among females, thereby indicating a significant gender disparity in its prevalence. The pathological decrease in salivary secretion associated with this particular condition results in a heightened susceptibility to the development of dental caries, a situation that underscores the importance of vigilant dental care and monitoring in affected patients. This case report meticulously outlines the comprehensive clinical summary of a 65-year-old female patient who possesses a well-documented medical history indicative of Sjogren's syndrome, for whom a successful administration of general anesthesia was executed for teeth extraction, thereby highlighting the complexities and considerations involved in managing such patients during surgical procedures. The successful execution of this anesthesia not only reflects the importance of understanding the implications of Sjogren's syndrome on overall health but also emphasizes the need for tailored anesthetic approaches that consider the unique challenges presented by this autoimmune disorder.

Keywords: Sjogren syndrome, teeth extraction, general anesthesia, autoimmune

INTRODUCTION

Sjogren's syndrome represents a persistent autoimmune condition characterized by a gradual progression that leads to xerophthalmia and mucosal dryness, attributable to dysfunctions in secretion processes caused by lymphocytic infiltration of exocrine glands. Although this syndrome primarily manifests as an autoimmune exocrinopathy, extraglandular (systemic) involvement affecting various tissues and organs (such as the lung, liver, kidney, and vascular structures) may be observed in approximately one-third of the affected individuals. The disease acquired its designation from the Swedish ophthalmologist Sjogren, who elucidated its characteristics in 1933. Sjogren's syndrome is not classified as an infrequent disorder; however, due to the application of diverse criteria in epidemiological investigations, the precise prevalence of this condition within the general population remains undetermined. Sjögren's syndrome is classified into two distinct types: primary and secondary. Primary Sjögren's syndrome is characterized by systemic manifestations in addition to the hallmark symptoms of ocular and oral dryness. Conversely, secondary Sjögren's syndrome occurs concurrently with primary Sjögren's syndrome and various other systemic autoimmune disorders. (1)

There have been documented instances of non-exocrine organ involvement, including the lungs, liver, kidneys, and central nervous system, in individuals with primary Sjögren's syndrome. The association between liver pathology and primary Sjögren's syndrome was initially elucidated by Cristiansson in 1954. (2)

This association is notably more prevalent when juxtaposed with the correlation between other autoimmune conditions, such as rheumatoid arthritis, and hepatic disease.Stevens-Johnson Syndrome (SJS) is an infrequent yet severe disorder that impacts the integumentary system and mucosal surfaces, often precipitated by pharmacological agents or infectious agents.(3,4) Oral complications, exemplified by diminished salivary flow, considerably heightened the susceptibility to caries, thereby necessitating thorough management and ongoing monitoring. The patient's SJS history mandated specific precautions, including the exclusion of non-steroidal anti-inflammatory drugs (NSAIDs) and acetaminophen, owing to the potential risk of eliciting a recurrence.(5-8) This case analysis delineates the dental intervention for a 65-year-old female patient with a documented history of SJS who exhibited dental caries in the third mandibular molar. Due to her impaired cooperation, dental procedures were conducted under careful consideration.

CASE REPORT:

A 65-year-old female patient with a known medical history of Sjogren syndrome presented herself for the surgical procedure involving the extraction of her mandibular third molar teeth at Saveetha Dental College, where the procedure was to be conducted under general anesthesia. In the preoperative phase, it was noted that no premedication was administered to the patient, and she was subsequently transported to the operation theatre, where the ASA standard monitors were meticulously attached to ensure continuous monitoring of her physiological parameters, and the baseline values were carefully recorded for reference. Upon assessment, the baseline hemodynamic values were established, revealing a heart rate of 88 beats per minute, a blood pressure reading of 128/73 mm hg, and an oxygen saturation level of 96% while the patient was breathing room air. To optimize the patient's oxygenation status prior to the induction of anesthesia, she was preoxygenated with 100% oxygen for a duration of five minutes to enhance her respiratory reserve. The induction of general anesthesia was accomplished by administering propofol at a dosage of 2 milligrams per kilogram intravenously, and muscle relaxation was achieved through the administration of atracurium at a dose of 5 milligrams per kilogram. Following the complete relaxation of the patient's muscles, orotracheal intubation was successfully performed using laryngoscopy on the first attempt without any complications. During the maintenance phase of anesthesia, the patient was kept under sedation with isoflurane at a concentration of 1% alongside a blend of 50% oxygen and 50% air delivered at a gas flow rate of 2 liters per minute, while 100 micrograms of fentanyl was concurrently administered to ensure adequate analgesia throughout the surgical procedure. To mitigate any potential dryness of the eyes, normal saline was intermittently applied, thereby ensuring the patient's comfort during surgery. Furthermore, dexamethasone and emeset were administered 15 minutes prior to the conclusion of the surgical intervention to proactively manage postoperative nausea and inflammation. Upon the completion of the surgical procedure, the inhalational agents were promptly discontinued, and the patient was then ventilated with 100% oxygen to facilitate her recovery. No neuromuscular antagonist was utilized in this case, and once it was determined that the neuromuscular function had been fully restored—evidenced by the patient's ability to hold her head for five seconds, maintain a hand grip for five seconds, follow simple commands, and sustain an oxygen saturation level of 95% or above while spontaneously breathing with adequate upper airway protection—extubation was performed successfully, and the patient was transferred to the post-anesthesia care unit for further observation and recovery. Following this transfer, repeat hemodynamic measurements were conducted for the patient, yielding a heart rate of 79 beats per minute, a blood pressure of 124/ 88 mm Hg, and an oxygen saturation level of 98%. The post operative period was eventful and she was discharged as per dentist medical advice.

DISCUSSION:

Sjögren’s syndrome represents a chronic autoimmune condition predominantly affecting females. The disorder is distinguished by a gradual infiltration of lymphocytes into exocrine glands and epithelial tissues, with a primary impact on the lacrimal and salivary glands. Clinically, the syndrome is typically associated with two main symptoms: keratoconjunctivitis sicca (dry eye) and xerostomia (dry mouth). Autoantibodies anti-SS-A (anti-Ro) and anti-SS-B (anti-La) circulating in maternal serum can cross the placental barrier and cause a congenital heart block (CHB). (8) This case report details the experience of a female patient diagnosed with Sjögren's syndrome, who exhibited dental caries in the mandibular third molars, likely linked to diminished salivary secretion, a notable risk factor. During the administration of general anesthesia for this specific case, no restrictions in cervical mobility or temporomandibular joint functionality were noted. However, precautionary measures for fiberoptic laryngoscopy and emergency tracheostomy were established during the preoperative period, acknowledging the potential for difficult intubation. Preoxygenation was conducted prior to anesthesia induction. Subsequently, propofol was employed during the induction phase, with orotracheal intubation successfully accomplished on the initial attempt through the use of cisatracurium, following the confirmation of the patient's adequate ventilation.

Mitigation of dehydration is crucial in conjunction with the avoidance of antihistamines, ephedrine, amphetamine, phenothiazine, propantheline, sedative-hypnotics, and medications for Parkinson’s disease in individuals with Sjögren’s

syndrome. Takahashi et al. reported on the anesthetic management of a patient with Sjögren's syndrome and pulmonary fibrosis, emphasizing the avoidance of atropine and all agents that may induce xerostomia, while administering saline drops to the eyes at ten-minute intervals to alleviate ocular dryness.(9) We provided intravenous fluids during the period of withheld oral intake to prevent dehydration in our patient. In the preoperative phase, we refrained from atropine premedication and the use of other potentially harmful agents, as well as anticholinesterase medications to avoid anticholinergic effects during extubation.

Hypokalemia may occur at a prevalence of 25–40% due to renal tubular acidosis in patients with Sjögren's syndrome. Ohtani et al. observed hypokalemia-induced respiratory arrest in a female patient with Sjögren's syndrome.(10) Similarly, we assessed serum electrolytes through preoperative blood gas analysis in our patient, which revealed normal serum electrolyte levels. We maintain that alterations in fluids and electrolytes in such patients warrant meticulous monitoring. Urban et al. reported that sensory neuropathies may arise from the involvement of the trigeminal, glossopharyngeal, and vagal nerves in patients with Sjögren's syndrome, with related symptoms frequently observed. (11).Consequently, we extubated the patient only after confirming adequate levels of consciousness, motor strength, and protective reflexes. Our study proved the successful implementation of general anesthesia for a patient with Sjogren syndrome which was achieved with adequate preoperative as well perioperative anesthesia measures though a proper guidelines in the literature has Our investigation demonstrated the effective administration of general anesthesia in a patient diagnosed with Sjogren syndrome, accomplished through appropriate preoperative as well as intraoperative anesthetic strategies, despite the absence of validated guidelines in the existing literature. not yet been proved.

REFERENCES

1. Lahita RAG. Sjögren syndrome. In: Lahita RG, Chiorazzi N, Reeves WH, eds. Textbook of the autoimmune disease. Philadelphia: Lippincott Williams Wilkins, 2000:569–72.
2. Naguwa S, Gershwin ME, Sjögren syndrome. In: Goldman L, Ausiello D, eds. Ceciltextbook of medicine, Philadelphia: Saunders, 2004:1677–80.
3. Cristansson J. Corneal changes in a case of hepatitis. Acta Ophthalmol (Copenh.)1954;32:161–4
4. Whaley K, Goudie RB, Williamson J, et al. Liver disease in Sjögren's syndrome and rheumatoid arthritis. Lancet 1970;1:861–3.
5. Lopes JD, Acras S, Borini P, et al. Hepatic involvement in Sjögren's syndrome. Acta Gastroenterol Latinoam 1974;6:1–5.
6. Vogel C, Wittenborg A, Reichart P. The involvement of the liver in Sjögren's syndrome. Oral Surg Oral Med Oral Pathol 1980;50:26–9.
7. Webb J, Whaley K, MacSween RN, et al. Liver disease in rheumatoid arthritis and Sjögren's syndrome. Prospective study using biochemical and serological markers of hepatic dysfunction. Ann Rheum Dis 1975;34:70–81.
8. Kim NE, Lee JH, Chung IS, Lee JY. Anesthetic management of patient with Sjogren's syndrome who underwent cesarean section: a case report. Korean Journal of Anesthesiology. 2016 Jun 1;69(3):283-6.
9. Takahashi S. Anesthetic management of a patient with Sjogren's syndrome and pulmonary fibrosis. Masui 1990;39:1393–6.
10. Ohtani H. Severe hypokalaemia and respiratory arrest due to renal tubuler acidosis in a patient with Sjögren syndrome. Nephrol Dial Transplant 1999;14:2201–3.
11. Urban PP. Sensory neuropathy of the trigeminal, glosso-pharyngeal, and vagal nerves in Sjögren's syndrome. J Neurol Sci 2000;186:59–63.