Journal of Surgery and Trauma 2025; 13(3):----.
jsurgery.bums.ac.ir

CASE REPORT

Anesthesia Mumps after Discectomy in a 76-year-old Female with a History of Chronic Myelogenous Leukemia

Gholamreza Hamidkholgh[1], Mahzad Yousefian[2]✉

[1] Department of Emergency Medicine, School of Medicine, Ardabil University of Medical Sciences, Ardabil, Iran
[2] Department of Anesthesiology, School of Medicine, Ardabil University of Medical Sciences, Ardabil, Iran

Received: March 16, 2025 *Revised: June 10, 2025* *Accepted: July 15, 2025*

Abstract

Acute swelling of salivary glands following operations outside the maxillofacial region is a rare phenomenon known as "anesthesia mumps". Various factors, such as dehydration, prolonged surgery, head positioning, and pharmacologic agents, have been implicated. We present a 76-year-old female with a history of chronic myelogenous leukemia (CML) in remission who developed right parotid swelling following L4-L5 discectomy under general anesthesia. Swelling was painless, progressive, and resolved with supportive management within 24 hours. The parotid gland's unique anatomical features predispose it to postoperative inflammation. This report underscores the need to recognize anesthesia mumps as a benign, self-limiting condition distinct from more serious complications, such as emphysema. Clinicians must be aware of anesthesia mumps to avoid unnecessary interventions. Early recognition and conservative management usually result in full recovery.

Key words: Discectomy, General Anesthesia, Leukemia, Postoperative Complications

Introduction

Acute postoperative swelling of the salivary glands, commonly referred to as "anesthesia mumps," is an infrequent but recognized complication associated with surgeries performed under general anesthesia, particularly those not involving the maxillofacial region. This phenomenon typically presents as a painless, transient enlargement of the parotid or submandibular glands and can occur unilaterally or bilaterally. Despite its alarming appearance, anesthesia mumps is generally benign and self-limiting (1).

The exact pathophysiology remains unclear, though multiple mechanisms have been proposed, including ductal obstruction due to mechanical pressure, retrograde airflow into the salivary ducts, perioperative dehydration, and drug-induced glandular hyperemia. Several anesthetic agents, such as succinylcholine, fentanyl, and atropine, have been implicated. Furthermore, surgical factors like prolonged operative time, extreme head positioning, and airway management techniques may contribute to its development (2).

Recognition of this condition is crucial to distinguish it from more serious postoperative complications, such as subcutaneous emphysema, deep neck infections, or airway obstruction. Early diagnosis can prevent unnecessary diagnostic procedures and interventions (3-5). In this case report, we describe a patient who developed right-sided parotid gland swelling following a discectomy under general anesthesia, highlighting clinical presentation, management, and outcomes.

Case

A 76-year-old woman with CML in remission underwent elective L4-L5 discectomy. She had no

@2025Journal of Surgery and Trauma
Tel: +985632381214
Fax: +985632440488
Po Bax 97175-379
Email: jsurgery@bums.ac.ir

✉Correspondence to:
Mahzad Yousefian, Department of Anesthesiology, School of Medicine, Ardabil University of Medical Sciences, Ardabil, Iran
Telephone Number: +984533534742
Email: dr_mahzad@yahoo.com

[Downloaded from jsurgery.bums.ac.ir on 2025-07-14]

known drug or food allergies. Premedication included midazolam (1.5 mg), fentanyl (3 μg/kg), and lidocaine 2% (60 mg). General anesthesia was induced with propofol (150 mg) and atracurium (16 mg). After intubation with a size 7 tracheal tube, the patient was positioned prone. Surgery lasted approximately two hours. Postoperative recovery was uneventful initially. Approximately five hours post-anesthesia, the patient experienced nausea, vomiting, and developed a slow-growing, painless swelling at the right mandibular angle extending to the submandibular region. Vital signs were stable: BP 130/80 mm Hg, O2 saturation 95%, pulse 80 bpm, and temperature 37°C. The CT scan ruled out emphysema or deep space infection. Serum amylase was elevated (1300 U/L). Management included semi-sitting positioning, IV hydration, nasal oxygen, and administration of hydrocortisone (100 mg). Symptoms resolved within 24 hours, and the patient was discharged after 48 hours without residual swelling.

Discussion

Anesthesia mumps is a rare postoperative complication characterized by swelling of the parotid and submandibular glands following general anesthesia. This condition is often benign, self-limited, and resolves within a few days. However, the clinical presentation can vary widely depending on factors, such as the type of surgery, positioning, and the patient's overall health. The case described here provides insight into a typical presentation of anesthesia mumps and serves as a basis for comparing other documented cases in the literature.

The study by Serin et al. (2007) (5) provides foundational insights into the pathophysiology of anesthesia mumps. In their case, prolonged positioning, dehydration, and reduced salivation due to anesthetic agents led to glandular swelling, which is consistent with our current case. The patient developed swelling several hours after surgery, and imaging confirmed the absence of infection, strongly supporting the diagnosis of anesthesia mumps. This phenomenon often occurs in the postoperative period when the salivary glands become engorged due to a combination of factors, including anesthetic effects, dehydration, and physical positioning during surgery.

While most cases of anesthesia mumps resolve without incident, there are instances where the swelling can progress to more severe complications. Hamaguchi et al. (2018) (2) describe a case requiring postoperative re-intubation due to airway obstruction from swelling, underscoring the potentially dangerous nature of the condition in some patients. Although our case did not involve airway compromise, it highlights the variability in clinical outcomes. Severe swelling could lead to airway obstruction, necessitating careful postoperative monitoring, particularly in older patients or those with underlying conditions, as seen in the current patient with CML.

Montazeri et al. (2022) (3) report a case of bilateral anesthesia mumps after a cesarean section under spinal anesthesia. This case is significant because it demonstrates that anesthesia mumps can occur not only after general anesthesia but also in cases involving spinal anesthesia. This expands our understanding of the condition, emphasizing that anesthesia mumps is not restricted to any particular type of anesthetic technique or surgical procedure. Given the diverse surgical settings in which anesthesia mumps may occur, it is important for clinicians to be aware of this complication regardless of the anesthesia method used.

The study by Kumar et al. (2021) (4) on acute sialadenitis following posterior fossa surgery highlights the potential for significant complications, such as airway obstruction, in cases of severe postoperative swelling. While their case involved sialadenitis, which can present similarly to anesthesia mumps, it emphasizes the need for vigilance in monitoring swelling in the postoperative period. When swelling is extensive enough to cause airway compromise, it can pose a life-threatening risk. This serves as a reminder that swelling, even in less common conditions, such as anesthesia mumps, should be managed with caution to prevent serious complications.

Cavaliere et al. (2009) (6) describe a case of massive facial edema and airway obstruction secondary to acute postoperative sialadenitis. While this case specifically involved sialadenitis rather than anesthesia mumps, it provides an important comparison in terms of managing postoperative swelling that threatens the airway. In cases where swelling is severe enough to impede breathing, it is crucial to intervene quickly to maintain airway patency. The rapid resolution of symptoms in our patient, who did not require such interventions, highlights the more typical and less severe course of anesthesia mumps.

Conclusions

The cases and studies reviewed highlight the broad spectrum of presentations and outcomes associated with anesthesia mumps. While many cases, including ours, resolve without incident, more severe manifestations, such as airway

[Downloaded from jsurgery.bums.ac.ir on 2025-07-14]

compromise, can occur and require urgent management. The management of anesthesia mumps remains largely supportive, involving hydration, positioning, and, in some cases, corticosteroids to reduce swelling.

This review underscores the importance of early recognition, careful monitoring, and individualized care to prevent complications, particularly in older patients or those with additional risk factors, such as CML. The literature supports the view that anesthesia mumps, while typically benign, should not be overlooked, as it has the potential to lead to severe complications if not managed appropriately.

Conflict of Interest

The authors declare there is no conflict of interest.

References

1. Sohrabi C, Abbasian M, Farahani AM, Hossain S. The SCARE 2023 guideline. Int J Surg. 2023;109(5):1136-40.
2. Hamaguchi T, Suzuki N, Kondo I. A case of anesthesia mumps that required postoperative re-intubation. JA Clin Rep. 2018;4:1-4.
3. Montazeri N, Ghaffari S, Tavakkol R. A Case of Bilateral Anesthesia Mumps after Cesarean Section under Spinal Anesthesia: A Rare Case and Literature Review. Case Rep Obstet Gynecol. 2022;2022:6984317.
4. Kumar A, Verma S, Gupta R, Gupta D. Acute Sialadenitis and Threatened Airway following Posterior Fossa Surgery. J Neuroanaesthesiol Crit Care. 2021;8(3):224-6.
5. Jan R, Alshuaibi KM, Rehman IU, Bithal PK. Acute Transient Sialadenitis - "Anesthesia Mumps:" Case Report and Review of Literature. Anesth Essays Res. 2020;14(2):352-4.
6. Li W, Liao Z, Yao L, Zhang L, Li X, Dong Z. Anesthesia mumps with airway obstruction after radical nephrectomy: A case report and literature review. Front Surg. 2023;9:1039362.

[Downloaded from jsurgery.bums.ac.ir on 2025-07-14]