International Journal of Medical Science in Clinical Research and Review
Online ISSN: 2581-8945
Available Online at https://ijmscrr.in/ Volume 8|Issue 01 (January-February) |2025 Page: 1-4

Case Report

An unexpected twist: anaesthesia mumps in a patient posted for knee debridement under general anaesthesia: Case Report

Authors:
Parul Dubey, Marilyn Mathew, Usharani Thimmappa, Zia Ali, Kurian P Thomas, Shaji Sainudeen, Osama Sami Maki Alani, Hany Fawzi Greiss.
Department of Anesthesiology, Rashid Hospital and Trauma Centre, MBRU, Dubai, UAE.
Corresponding Author:
Parul Dubey

Article Received: 18-November-2024, Revised: 08-December-2024, Accepted: 28-December-2024

ABSTRACT:
"Anesthesia mumps," a form of acute postoperative sialadenitis, has been observed following various surgical procedures. This condition is typically harmless, with swelling subsiding naturally without intervention in most instances. Medical professionals should be cognizant of this temporary ailment. In rare cases, severe complications like respiratory distress may necessitate immediate action. We present a case involving a 75-year-old woman scheduled for left knee debridement under general anesthesia who experienced acute transient sialadenitis. The condition resolved on its own without any treatment.

Keywords: Anesthesia mumps, parotid gland, transient sialadenitis

INTRODUCTION:

Transient inflammation and enlargement of salivary glands after general anesthesia, known as anesthesia mumps, is a rare complication encountered in anesthesia. It is usually benign and subsides within few hours. Very rarely, it has caused serious symptoms warranting urgent intervention. We report the case of a 75-year-old female patient who developed acute sialadenitis of the bilateral parotid parotid glands after left knee debridement under general anaesthesia.

CASE REPORT:

A 75-year-old female, 70 kg, was scheduled for left knee debridement. Preoperative anesthesia assessment as done. Patient was a known case of hypertension and diabetes which was under control on treatment. She had undergone two procedures in the past 2 years under general anaesthesia uneventfully. A routine sequence of induction and maintenance of anaesthesia was done and size 4 I-gel type laryngeal mask airway was inserted. The procedure lasted around 90 minutes and was uneventful. At the time of laryngeal mask airway removal, the patient opened eyes to commands and breathing adequately at tidal volume breaths spontaneously without any respiratory distress and coughed 2 to 3 times as sign of good gag reflex. Later, she was transferred to the postanesthesia care unit connected to a multiparameter monitor. In the first post-operative day ,we were called by the ward nurse for a noticeable swelling in the bilateral parotid area. It was firm, was irreducible, with no erythema, and was mildly tender, but there was no crepitus. The patient was fully awake, afebrile, and did not complain of any pain or difficulty in breathing.

Otorhinolaryngology consultation with X-ray neck and chest with ultrasound of the swelling was done, which showed bilateral large parotid gland with ductal enlargement without any calculus. The patient and her family were reassured, and he was observed closely in the high dependency unit. The swelling started to decrease in size after 6 h and completely disappeared after 48 h. During this period, the patient remained hemodynamically stable with no signs of respiratory distress. She was discharged home on the 3rd post-procedure day.

DISCUSSION WITH LITERATURE REVIEW:

Transient swelling of the salivary glands after anesthesia has been called anesthesia mumps in the anesthesiology literature. Reports of benign transient enlargement of the parotid gland after general anesthesia date back from the 1960s, when Schwartz named it as surgical mumps.[1] However, the term “anesthesia mumps” was coined by

© Parul Dubey **et al. 2025**

Reilly in 1970. He described it as benign self-limiting enlargement of the parotid glands appearing after general anesthesia, relatively unknown and an under documented condition.[2] . Many case reports have been described in literature, associated with a wide range of surgeries including neurosurgical, abdominal, plastic, endoscopic, orthopedic, otolaryngologic, and gynecological procedures. Some cases of bilateral swelling of parotid glands have also been reported.[3] This condition does not show predilection to any age and many cases have been reported in pediatric age groups also. Rowel *et al*. reported acute unilateral enlargement of the parotid gland immediately post craniotomy in a 5-year-old child.[4] Similarly, acute postoperative sialadenitis has been reported in a 3-year-old child who presented for hypospadias repair.[5] There are several other case reports of parotid gland swelling, especially after long-lasting procedures.[6] It is usually transitory and resolves spontaneously without any treatment.[7] However, there are few case reports where it has led to airway obstruction that required reintubation or tracheostomy.[8]

The etiology of this condition remains elusive, but possible causes include trauma, infection, hypersensitivity reactions, dehydration, and obstruction of the glandular excretory ducts by position, calculi, or thickened secretions.

The factors implicated in its etiology are varied and many presumptions have been reported in literature. Some etiological factors include trauma to the soft tissues of the neck, vascular congestion and venous engorgement of the head and neck, coughing against the endotracheal tube, overactive pharyngeal reflex stimulation of the salivary gland through the parasympathetic nerves, and succinylcholine-stimulated copious secretions.[9] Some authors also claim that presence of underlying disease such as obesity may be a contributing factor too.[10] Sometimes, increased airway pressure (during ventilation with a facial mask) combined with muscle relaxation causes air to enter the parotid gland orifice and obstruction of the excretory ducts.[11] Another possible explanation relates to the extremely rotated position of the patient's head during a prolonged surgical procedure, which may cause obstruction of the Stensen's duct by compression pressure.[12] A rare case of acute parotitis has been reported from the ICU, wherein possibly prolonged obstruction by endotracheal tube and decreased salivary flow by medications could have contributed for its occurrence.[13] Similarly, anesthesia mumps has been reported after prolonged surgery for sacral laminectomy.[14]

This condition is not limited to general anesthesia only and has also been reported after regional anesthesia, probably resulting from dehydration or due to the sympathetic stimulation caused by perioperative use of vasopressors.[15] Adverse drug reactions (usually causing bilateral sialadenitis) have been described during morphine infusion and administration of captopril, nifedipine, and other drugs.[16]

Most of the cases reported in literature were noticed immediately following extubation, however Kati *et al*. have reported a case of anesthesia mumps after cesarean section in a pregnant woman 24 h after surgery and similarly, some cases reported that swelling appeared 20 h after surgery.[17,18]

Although several different mechanisms are suggested, clinical management is much the same. Most of the cases resolve spontaneously within 48 h and no specific treatment is required, however some authors have applied many management strategies ranging from conservative care to surgical approaches, depending on the severity of the condition. Adequate hydration, mouthwash, pain control, and warm compresses on the affected side are helpful in most of the cases.[19]

Different ways have been suggested by many authors to prevent the development of anesthesia mumps. Some suggest using adaptive-shaped soft pads, whereas others believe that changing the head-and-neck position to avoid mechanical occlusion of the parotid gland and duct may be helpful.[19] This strategy may be desirable during long surgical procedures, but in some cases, anesthesia mumps has developed even after a short surgical procedure.[20] Therefore, other factors need to be considered and taken care of. Mask Ventilation with pressure over the soft tissues for providing positive pressure ventilation could also play a part in parotid gland duct occlusion and gland swelling. Hence, careful consideration should be given to patients with predisposing conditions such as long operation time, premedication involving anticholinergics, prone and lateral decubitus position, extremes of neck extension, obesity, and a history of parotid disease or trauma or past history of anesthesia mumps. In addition, anesthesiologists should be aware that anesthesia mumps can develop with usual face mask ventilation, and a gentle face mask ventilation is desirable.

In our case, the cause for the swelling was probably caused by increased pressure in the parotid duct due to bag mask ventilation. In addition, coughing before laryngeal mask airway removal could have led to an increase in oropharyngeal pressure and retrograde movement of air in the parotid duct. Therefore, anesthesia mumps in our patient was probably multifactorial. In conclusion, acute unilateral or bilateral swelling of the parotid gland after anesthesia can occur rarely. The attending physician should be aware of the transient and benign nature of this condition.

Financial support and sponsorship: Nil.

Conflicts of Interest: There are no conflicts of interest.

REFERENCES:

1. Schwartz AW, Devine KD, Beahrs OH. Acute postoperative parotitis (”surgical mumps”) Plast Reconstr Surg Transplant Bull. 1960;25:51–8. doi: 10.1097/00006534-196001000-00006.

2. Reilly DJ. Benign transient swelling of the parotid glands following general anesthesia: “Anesthesia mumps”. Anesth Analg. 1970;49:560–3.

3. Yavuz AE, Nur AZ, Hatice A, Nermin G. “Anesthesia mumps” after electroconvulsive therapy anesthesia. J ECT. 2011;27:e21–2. doi: 10.1097/YCT.0b013e3181df4ed.

4. Rowell J, Lynn AM, Filardi TZ, Celix J, Ojemann JG. Acute unilateral enlargement of the parotid gland immediately post craniotomy in a pediatric patient: A case report. Childs Nerv Syst. 2010;26:1239–42. doi: 10.1007/s00381-010-1186-y.

5. Mutaf M, Büyükgüral B. An unusual postoperative complication: Anesthesia mumps. Eur J Plast Surg. 2007;29:335–8.

6. Serin S, Kaya S, Kara CO, Baser S. A case of anesthesia mumps. Anesth Analg. 2007;104:1005. doi: 10.1213/01.ane.0000258824.59125.

7. Erkiliç E, Kesimci E, Yüngül A, Alaybeyoğlu F, Aksoy M. A complication after percutaneous nephrolithotomy: Anesthesia mumps. Anesth Essays Res. 2017;11:794–6. doi: 10.4103/0259-1162.204203.

8. Özdek A, Bayır Ö, Işık ME, Tatar EÇ, Saylam G, Korkmaz H. Anesthesia mumps resulting in temporary facial nerve paralysis after the auditory brainstem implantation in a 3-year-old child. Int J Pediatr Otorhinolaryngol. 2014;78:159–62. doi: 10.1016/j.ijporl.2013.09.030.

9. Jain D, Bala I, Dwivedi D. Anaesthesia mumps in a child: A rare entity. Indian J Anaesth. 2014;58:500–1. doi: 10.4103/0019-5049.139031.

10.Narang D, Trikha A, Chandralekha C. Anesthesia mumps and morbid obesity. Acta Anaesthesiol Belg. 2010;61:83–5.

11.Mandel L, Surattanont F. Bilateral parotid swelling: A review. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2002;93:221–37. doi: 10.1067/moe.2002.121163.

12.Postaci A, Aytac I, Oztekin CV, Dikmen B. Acute unilateral parotid gland swelling after lateral decubitus position under general anesthesia. Saudi J Anaesth. 2012;6:295–7. doi: 10.4103/1658-354X.101227.

13.Aslam S, Samad R, Alipour M. Acute parotitis: A rare cause of unilateral neck swelling in ICU. Am J Respir Crit Care Med. 2019;199:A6630.

14.Asghar A, Karam K, Rashid S. A case of anesthesia mumps after sacral laminectomy under general anesthesia. Saudi J Anaesth. 2015;9:332–3. doi: 10.4103/1658-354X.154743.

15.Rosique MJ, Rosique RG, Costa IR, Lara BR, Figueiredo JL, Ribeiro DG. Parotitis after epidural anesthesia in plastic surgery: Report of three cases. Aesthetic Plast Surg. 2013;37:838–42. doi: 10.1007/s00266-013-0112-6.

16.Gislon Da Silva RM. Captopril-induced bilateral parotid and submandibular sialadenitis. Eur J Clin Pharmacol. 2004;60:449–53. doi: 10.1007/s00228-004-0770-z.

17.Kati I, Kurdoglu Z, Goktas U, Aytekin OC, Avcu SL. Anesthesia mumps after the cesarean section in pregnant woman. Eur J Gen Med. 2011;8:342–4.

18.Sharma S, Singh G, Gooptu S, Ali I. Anaesthesia mumps. Arch Int Surg. 2014;4:1.

19.Bahadur S, Fayyaz M, Mehboob S. Salivary gland swelling developing after endoscopy:

"Anesthesia mumps". Gastrointest Endosc. 2006;63:345–7. doi: 10.1016/j.gie.2005.09.008.

20. Kwon SY, Kang YJ, Seo KH, Kim Y. Acute unilateral anesthesia mumps after hysteroscopic surgery under general anesthesia: A case report. Korean J Anesthesiol. 2015;68:300–3. doi: 10.4097/kjae.2015.68.3.300.