

Parotitis After Endoscopic Retrograde Cholangiopancreatography

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ABSTRACT

End-stage liver disease management requiring orthotopic liver transplantation is being increasingly performed across the United States. However, some of the most common postoperative complications are bile leak and anastomotic stricture formation. These complications are successfully managed in most patients with endoscopic retrograde cholangiopancreatography (ERCP). We hereby report a case of acute parotitis, an extremely uncommon complication after ERCP. The exact etiology of this complication is not known. However, we discuss the treatment and purported mechanistic risk factors of this unusual post-ERCP adverse event.

INTRODUCTION

Orthotopic liver transplantation is being increasingly performed for the treatment of end-stage liver disease. However, post-transplant biliary complications can occur in up to 25% of the liver transplant patients. These are successfully managed in most patients with an endoscopic retrograde cholangiopancreatography.¹ Acute parotitis is an extremely uncommon complication after endoscopic procedures.

CASE REPORT

A 55-year-old man with a medical history of orthotopic deceased donor liver transplant for nonalcoholic steatohepatitis cirrhosis complicated by cytomegalovirus disease infection and anastomotic stricture 4 months postoperatively, presented for follow-up endoscopic retrograde cholangiopancreatography for stent management. During the procedure, the patient underwent uncomplicated balloon dilation of the stricture and a temporary plastic biliary stent was exchanged. For sedation, he received propofol without endotracheal intubation. He also received preprocedural ciprofloxacin for prophylaxis and glycopyrrolate to reduce secretions. On waking up from the procedure, the patient reported acute onset of significant swelling and pain in his left mandibular region. A physical examination revealed left mandibular swelling with mild tenderness and minimal erythema (Figure 1). Before the procedure, this swelling was not present, and he was otherwise asymptomatic without any preceding history of viral prodrome.

This patient's facial swelling and tenderness were consistent with acute parotitis. He was recommended conservative measures to increase salivation including warm compresses, parotid massage, and use of sialagogues. Given his immunocompromised state, he was also given a 10-day course of amoxicillin-clavulanic acid.

DISCUSSION

The parotid glands are small exocrine glands located lateral to the masseter muscle and extending posteriorly over the sternocleidomastoid muscle behind the angle of the mandible. Inflammation of the parotid gland can be caused by infection, systemic inflammatory illnesses, mechanical obstruction, or medications.² Predisposing factors to suppurative infections include dehydration, malnutrition, oral neoplasms, immunosuppression, sialolithiasis, and medications that diminish salivation.²



Figure 1. Photograph showing left mandibular swelling with mild tenderness and minimal erythema consistent with parotitis.

Swelling of the salivary glands has also been reported as a rare complication after peroral endoscopy, bronchoscopy, and endotracheal intubation.^{3–5} The etiology is not known, but multiple mechanisms have been proposed. The pathophysiology appears to be related to transient obstruction of the salivary ducts. Dehydration may contribute to thicker secretions and predispose to the salivary duct blockage. Parasympathetic stimulation, as during endotracheal intubation, causes parotid vasodilation and enlargement.⁶ In this case, the patient was positioned prone with the left side of his face downward and also received glycopyrrolate to reduce secretions. Both factors may have additionally contributed to the development of parotitis. At the 2-month follow up, he denied any recurrence of symptoms and was completely asymptomatic.

DISCLOSURES

Author contributions: All authors contributed equally to this manuscript. P. Chahal is the article guarantor.

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REFERENCES

1. Roos FJM, Poley JW, Polak WG, et al. Biliary complications after liver transplantation; recent developments in etiology, diagnosis and endoscopic treatment. *Best Pract Res Clin Gastroenterol.* 2017;31:227–35.
2. Brook I. Diagnosis and management of parotitis. *Arch Otolaryngol Head Neck Surg.* 1992;118:469–71.
3. Vadivel Kumaran S, Sumathi B, Nirmala Natarajan D. Transient parotitis after upper gastrointestinal endoscopy. *Endoscopy.* 2013;45(suppl 2 UCTN):E424–5.
4. RW B. Recurrent swelling of parotid and submaxillary gland following bronchoscopy. *Ann Otol Rhinol Laryngol.* 1974;53:54–64.
5. Liu FC, Liou JT, Li AH, et al. Acute unilateral parotid glands enlargement following endotracheal general anesthesia: Report of two cases. *Chang Gung Med J.* 2007;30:453–7.
6. Bonchek LI. Salivary gland enlargement during induction of anesthesia. *JAMA.* 1969;209:1716–8.

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