

Acute Suppurative Parotitis



Michael Rhodes, MD^a, Bradley J. Benson, MD^{b,*}

KEYWORDS

• Parotitis • Parotid gland • Acute suppurative parotitis • Sialolithiasis • Sialadenitis

HOSPITAL MEDICINE CLINICS CHECKLIST

1. Parotitis is an inflammatory process of the parotid gland caused by an infectious or rheumatologic process.
2. Obstruction of the Stensen duct by a sialolith or a foreign body is the most common cause of acute inflammation.
3. Acute suppurative parotitis (ASP) is most commonly a result of static salivary flow and migration of oral microbes up the Stensen duct.
4. In the past, ASP was a severe complication of abdominal surgery, but in the modern era of improved hydration, oral hygiene, and antibiotics it is rare.
5. Bacterial ASP is typically polymicrobial, with high rates of *Staphylococcus aureus* and anaerobic organisms. Patients with prolonged illnesses or frequent contact with the health care system are at risk for health care–associated ASP infection caused by methicillin resistant *S aureus* or *Pseudomonas*.
6. Management of ASP is focused on relieving parotid obstruction with sialagogues or parotid massage, appropriate rehydration, antibiotic therapy, and optimization of medical comorbidities.
7. Admission to the hospital should be considered if the patient appears systemically ill with concern for sepsis or severe dehydration.
8. Consultation from an ear, nose, and throat specialist should be considered in cases in which a discrete palpable mass is present.
9. Ultrasonography is an effective imaging modality to assess for parotid inflammation, sialoliths, cystic lesions, or abscesses.

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^a Departments of Internal Medicine and Pediatrics, University of Minnesota Medical School, Minneapolis, MN 55455, USA; ^b Division of General Internal Medicine, University of Minnesota Medical School, D653 Mayo Memorial Bldg, 420 Delaware St. SE, MMC 741, Minneapolis, MN 55455, USA

* Corresponding author.

E-mail address: benso040@umn.edu

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10. The differential for parotitis beyond acute bacterial infection includes viral infection, benign lymphoepithelial cysts associated with human immunodeficiency virus, rheumatologic disease, endocrine disease, mycobacterial or fungal infections, and medication effects.

What is parotitis?

Parotitis is defined as an inflammatory process of the parotid gland. Sialadenitis is the inflammation or infection of a salivary gland, and parotitis is the specific term for parotid gland inflammation. Common causes are bacterial, viral, or rheumatologic.

What are the pertinent anatomic features of the parotid gland?

The parotid glands are paired salivary glands located lateral to the masseter muscle extending posteriorly to the sternocleidomastoid muscle in the region over the ramus of the mandible (**Fig. 1**).^{1,2} The parotids are the largest of the more than 500 salivary glands in the oral mucosa.¹ The parotid glands secrete saliva into the oral cavity through the Stensen duct. The Stensen duct enters the oral cavity near the second maxillary molar transecting the buccinators muscle into the buccal mucosa. The significant structures that run through or are adjacent to the parotid gland include the facial nerve, external carotid artery, retromandibular vein, and multiple lymph nodes.¹ An estimated 500 to 1500 mL of saliva are excreted daily from the parotid glands, submandibular glands, and the minor salivary glands.²

What is acute suppurative parotitis (ASP)?

ASP is a bacterial infection of the parotid gland. The first clinical description of ASP is attributed to Cruveilhier in 1836. The pathophysiologic basis of ASP is static flow of saliva leading to migration of oral flora up the Stensen duct. The reduced flow of saliva may be caused by duct stricture, obstruction (most commonly from sialoliths), or decreased saliva production secondary to illness or medication.³ The decline in saliva flow creates stasis, which potentiates bacterial growth, and leads to the loss of saliva's bacteriostatic effects, contributing to an oral environment that is more prone to bacterial infection.

What predisposes patients to develop ASP and how can it be prevented?

In the past, epidemiologic studies have shown a higher incidence of ASP in patients with trauma and those who have recently undergone abdominal surgery.⁴ Other known factors that contribute to risk of ASP include dehydration, starvation, debilitation, advanced age, immunosuppression, oral neoplasm, tracheostomy, and known ductal obstruction.⁵⁻⁸ Diabetes is a common comorbidity in these patients, presumably because of the dehydration and immunosuppression associated with hyperglycemia. Drugs that decrease saliva production, especially anticholinergic agents, also predispose patients to develop ASP (**Box 1**).³ Before the modern antibiotic era, ASP carried a mortality of ~50%, making it a serious postoperative complication. President James Garfield died in 1881 of secondary ASP infection 11 weeks after surviving a gunshot wound to the abdomen.^{3,7} The dehydration and malnutrition that occurs with severe illness or abdominal trauma likely accounted for the high historical

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