



# Pneumoparotid

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A young man presented a unilateral, painful, swelling in the left parotid region. No significant medical findings or surgical history were reported by the patient. Multidetector computed tomography (MDCT) findings revealed air in the enlarged left parotid gland and its Stensen's duct. No lithiasis or emphysema was detected and soft tissue density was normal.

Pneumoparotid is a rare condition of air present in the salivary system (via retrograde air insufflation) and the parotid gland.<sup>1</sup> It is more likely to occur in individuals with elevated intraoral pressures such as in wind instrument players during whistling or coughing, following dental treatment; or in individuals with anatomical abnormalities, such as incompetent Stensen's duct with high pressure and acini rupture, muscle abnormalities, and mucous obstruction.

Pneumoparotid can present as a facial swelling, which may be painful and erythematous. We analyzed 55 manuscripts, from 1987 to present, and found reports of 59 patients with pneumoparotid.<sup>2</sup>

The diagnosis is based on a clinical examination and confirmed via diagnostic modalities. Palpable crackling sensations may lead to the discharge of foamy saliva or air bubbles from Stensen's duct. MDCT is the standard method for satisfactorily detecting a small amount of air.<sup>3</sup> A soft-tissue window is recommended (different software techniques are essential for ruling out pneumoparotid), and ultrasonography and magnetic resonance imaging are helpful in detecting inflammatory or infectious complications.

An incomplete reflux mechanism in addition to complications leads to self-induced pneumoparotitis, which advances air distally into the mediastinal cavity.<sup>4</sup> The relationship between pneumoparotitis and free air traveling distally remains unclear. However, the air dissecting up into the cervical tissues and fascial layers is well understood and complicated with mediastinal emphysema and pneumothorax.<sup>5</sup>

Conservative treatments include massage, hydration, warm compresses, anti-inflammatory medications, and prophylactic antibiotics.<sup>2</sup> It is important to identify patients with air within the parotid gland before it progresses into a serious clinical condition and extends to the mediastinum and pleural cavity. Surgical interventions include parotid duct ligation and parotidectomy.

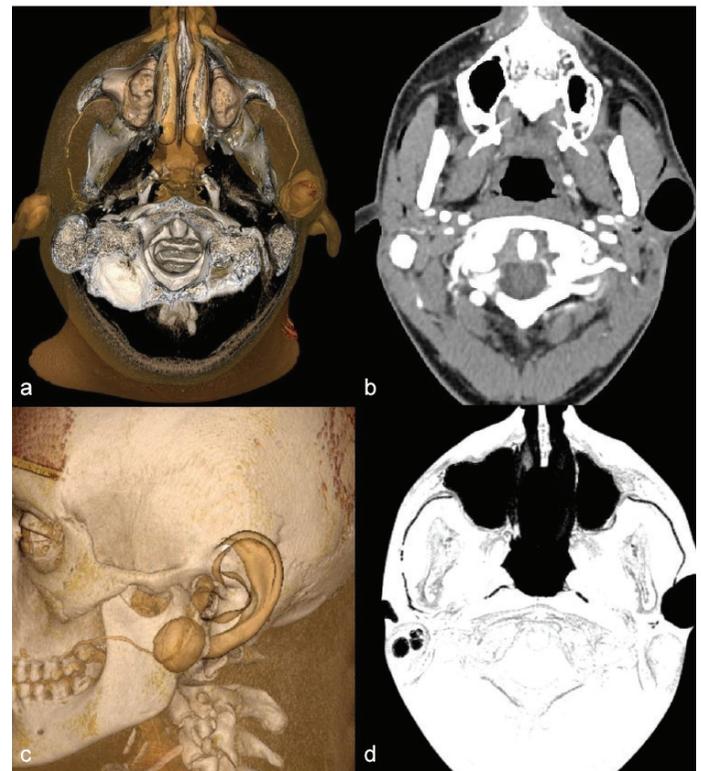


FIG. 1. Multiplanar volume-rendered (a,c), soft tissue (b), and minIP axial (d) images showing the presence of air in the enlarged left parotid gland and its Stensen's duct.



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