CASE HISTORY
A seven-year old boy presented with a 4-year history of intermittent swelling of the parotid areas. This swelling was very tender when it occurred and he had been treated with multiple courses of antibiotics with no resolution. There is no history preceding trauma or infection. Nonsteroidal anti-inflammatory medications have provided pain relief until the swelling has subsided. These episodes happen approximately every 7-8 weeks and no identifiable cause has been found.

On physical examination, he is a well-nourished young male with bilateral tender parotid swelling (Figure 1). Cranial nerve VII was intact and symmetric. No stone was palpated intraorally and Stenson’s ducts were productive of saliva. The remainder of his physical examination was unremarkable.

His past medical history is significant for G6PD deficiency, mild obstructive sleep apnea, allergic rhinitis, and a seizure disorder for which he takes oxcarbazepine.

During one episode of bilateral parotid swelling, a computed tomography scan with intravenous contrast was obtained. Cystic air-filled dilations within the parotid gland were identified (Figure 2).

He has thus far been managed successfully with conservative measures, including warm compresses, anti-inflammatory medications, and sialagogues. Given the frequency of his attacks, surgical therapy is being considered at this point, including superficial parotidectomy and/or ductal ligation.

DISEASE CHARACTERISTICS
Pneumoparotitis or pneumoparotid refers to pathologic air in parotid glandular tissue and it can manifest clinically as acute parotitis because the overlying skin becomes tender and warm. Another name for this condition is wind parotid because patients at risk for development of pneumoparotid are wind instrumentalists and glassblowers. Other risk factors for developing pneumoparotitis include underwater diving, dental cleaning, and coughing during emergence from anesthesia.

Normally, the parotid ductal opening seals itself during times of increased intraoral pressure, thereby preventing the influx of air into the gland. Previous studies have demonstrated anatomical abnormalities in these patients, including patulous Stenson’s duct, weak buccinator muscle, and cystic dilation of Stenson’s duct and distal ducts.

Patients with pneumoparotid present with swelling and pain of one or both parotid glands with overlying erythema and no fever. CT scan during an acute episode will demonstrate air in the gland or ductal system.

Treatment includes conservative measures during an acute episode. The cause should be identified, when possible, and attempts should be made to avoid any offending activity. Parotidectomy is reserved for recurrent cases and it carries an increased risk of facial nerve injury compared to surgery for parotid neoplasms. Stenson’s ductal ligation has been performed, but should be avoided as a single modality treatment.