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CASE REPORT

Pediatric skull base plunging ranula: Case report and review of the literature

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Summary A plunging or cervical ranula is a mucous extravasation pseudocyst which arises from the sublingual gland and crosses the mylohyoid line into the neck. The definitive surgical treatment for plunging ranula is transoral excision of the ipsilateral sublingual gland. Plunging ranula is a rare entity in the pediatric population. To our knowledge, there are no reported cases of pediatric plunging ranula extending to the skull base. We present a rare case of a pediatric plunging ranula with extension to the parapharyngeal space and skull base as well as a review of the literature.

1. Introduction

Ranulas are mucous extravasation pseudocysts in the floor of the mouth. Whereas the simple oral ranula is a relatively common occurrence in adults and children, pediatric plunging ranula is a rare entity usually presenting as a neck mass with or without an associated oral lesion. Several hundred cases of plunging ranula have been reported in the English literature with the most common age at presentation in the second and third decades of life. Only a few cases have been reported in children. We report a case of a 4-year-old girl with a plunging ranula extending to the base of skull treated with sublingual gland excision alone. To our knowledge, this is the first reported case of a pediatric plunging ranula extending to the parapharyngeal space and skull base.

2. Case report

A 4-year-old female was seen in the emergency department for worsening swelling under her tongue with associated fever and difficulty swallowing. The swelling under her tongue recurred after aspiration by an Otolaryngologist and completion of a 2-week course of amoxicillin 1 month prior. She was noted to have a cystic appearing mass in the right floor of mouth with ballottable fullness in the ipsilateral submandibular region. She was started on IV clindamycin and an ultrasound was performed which revealed a 4 cm × 3 cm submandibular cystic mass with a tubular appearing base extending superiorly toward the floor of mouth. Aspiration of 20 mL mucoid appearing fluid from the right submandibular

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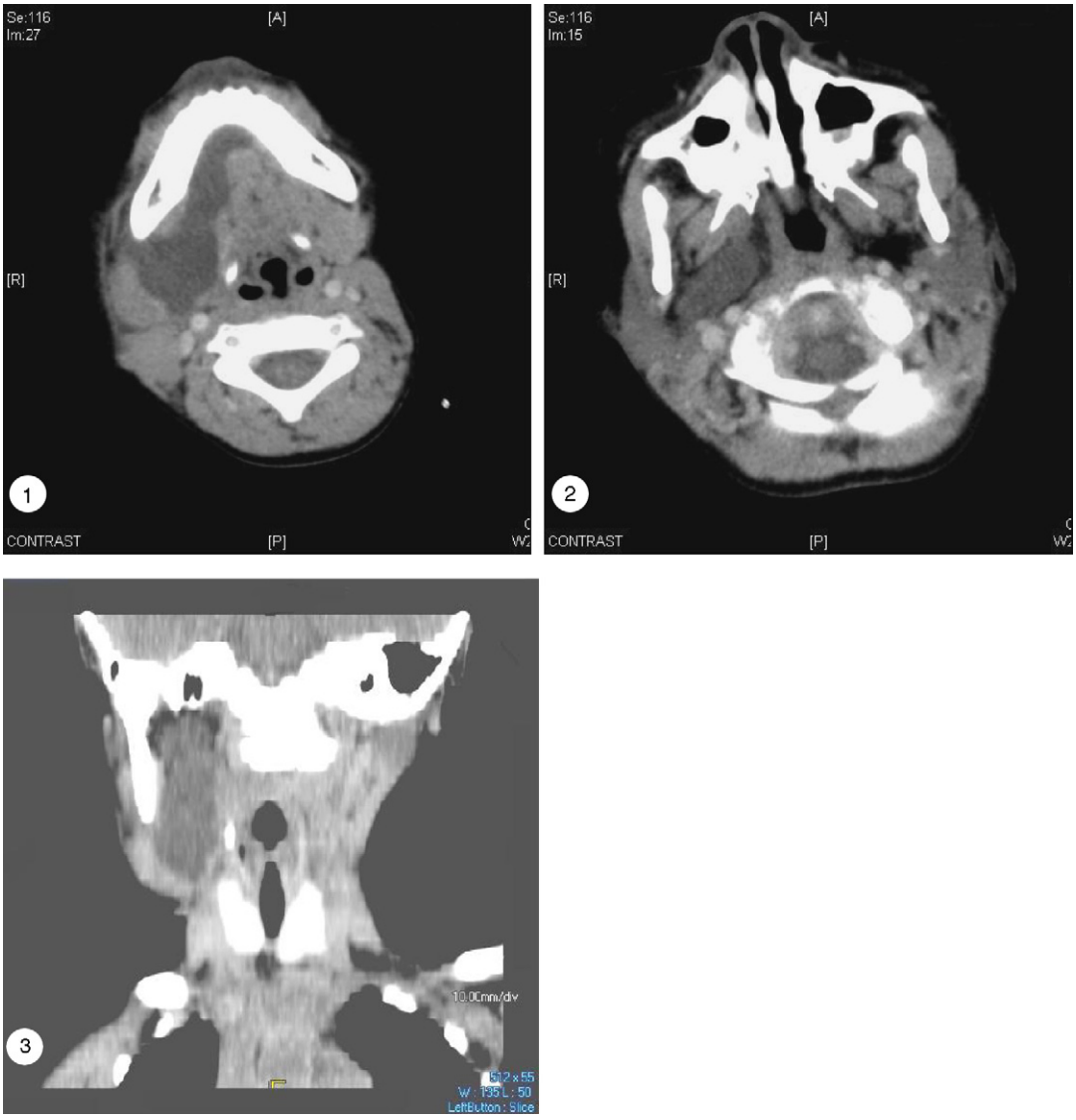
mass led to temporary collapse of the floor of mouth swelling and alleviation of dysphagia which recurred over the following 24 h. Enhanced CT image of the neck revealed a large cystic structure in the sublingual region extending through the floor of mouth into the submandibular region and superiorly into the parapharyngeal space abutting the base of skull (Figs. 1—3). The diagnosis of plunging ranula was made based on the CT findings as well as the presence of mucin in the aspirate.

The patient was taken to the operating room for sublingual gland excision. The surgical technique involved nasotracheal intubation and complete excision of the right sublingual gland via an intraoral approach. The ipsilateral Wharton's duct was identified in its paramedian position in the floor of mouth. The sublingual gland, along with a triangular wedge of mucosa overlying it were then excised with a needle-tipped electrocautery device. Care was taken to avoid injury to the lingual nerve and Wharton's duct. During excision of the sublingual gland, the cyst was incised and its mucoid contents removed with suction. Hemostasis was obtained and the wound was irrigated. The floor of mouth mucosa was then closed loosely with chromic sutures without placement of a drain. Histopathologic evaluation revealed flattened, hemorrhagic granulation tissue attached to the excised sublingual gland.

Following the operation, the patient was placed on a clear liquid diet which was advanced to a regular diet over 2 days. After resuming normal diet on the second postoperative day, she was discharged from the hospital. She completed a 10-day course of



Figs. 1—3 Neck CT showing cystic structure extending through the right floor of mouth and superiorly to the parapharyngeal space and skull base.