Congenital Lesions of the Oral Cavity: Anatomical Localization and Imaging Characteristics Narrow the Differential Diagnosis

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Purpose
Congenital lesions of the oral cavity are imaged to assist the surgeon in anatomical localization and preoperative diagnosis. Many of these lesions have distinctive imaging signatures. We review the spectrum of congenital lesions of the oral cavity and describe their spatial localization and imaging appearance with attention to features that allow differentiation within this lesion group.

Materials & Methods
The clinical and imaging records of 22 patients with pathologically proved congenital lesions of the oral cavity were reviewed retrospectively. Four additional patients without pathologic proof were included because of characteristic physical examination and imaging findings. Patients were imaged using CT, MR imaging, or both. In addition to general imaging features, the location of the lesion was assessed. The center of the lesion was placed into one of the spaces of the oral cavity: submandibular space (SMS), sublingual space (SLS), buccal space (BS), oral mucosal space (OMS), or medial tongue. Lesions were characterized as within a single space or within multiple contiguous spaces (transpatial).

Results
The following pathologies were identified: 6 vascular malformations, 5 thyroglossal duct cysts, 5 cystic hygromas, 4 epidermoids, 3 dermoids, 2 lingual thyroids, and one case of bilateral submandibular gland duct atresia. The vascular malformation group was the most heterogeneous with respect to lesion location with three lesions involving at least three other spaces within the head and neck in addition to involvement of the SMS and SLS in each case; two vascular malformations involved the OMS; one involved the BS. All cystic hygromas were transpatial, with four out of five centered in the SMS. The majority of the thyroglossal duct cysts were midline lesions in the inferior medial tongue, often wedged between the genioglossus-geniohyoid muscles. The majority of the remaining lesions were centered in the SLS with most confined to one space. Some lesions demonstrated characteristic imaging features; the majority of epidermoids presented as oval, well-defined lesions in the SLS; dermoids were characterized by well-defined internal fat lobules.

Conclusion
The radiologic appearance of congenital lesions of the oral cavity is often distinctive. Accurate identification of a specific lesion type is predicated on anatomical location and imaging
appearance. This imaging information allows a highly specific preoperative roadmap and diagnosis.