A Simple Contrast Distension Technique to Improve CT Evaluation of Oral Cavity Lesions

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Purpose
This exhibit demonstrates the normal anatomy of the oral cavity and illustrates how distension of the oral cavity with air/fluid contrast media successfully displays otherwise obscure oral cavity lesions.

Materials & Methods
In 3 normal subjects and 4 patients with known oral cavity lesions, serial contiguous 3 mm axial and coronal CT scans (120 KV, 270 mA) were obtained through the oral cavity both prior to and then following distension of the oral cavity using either intraoral air, water, or gastrografin. Air distension was achieved simply by having the individuals blow out their cheeks (modified Valsalva maneuver) and then hold them inflated during the axial and coronal scans. Fluid distension was obtained using approximately 60 cc of either water or gastrografin contrast held within the oral cavity during the study.

Results
In each case, the contrast successfully distended the oral cavity, separated the apposing mucosal surfaces of (a) the narrow vestibule external to teeth and (b) the larger oral cavity proper deep to the teeth. Both air and water contrast were well tolerated. Gastrografin proved least successful, because patient compliance was reduced by its bitter taste and because the hyperdense contrast obscured subtle lesions of the oral cavity. Gingivobuccal lesions which were obscured by apposition of the lips and cheeks to the gums and teeth, or by apposition of the tongue to the inner margins of the gums and teeth were demonstrated clearly when the oral cavity was distended with contrast. Lesions involving or extending into the retromolar trigone also were well demonstrated using this contrast distension technique.

Conclusion
CT display of the anatomy and pathology of the oral cavity can be improved by distending the oral cavity using either air or water as a contrast medium. This technique successfully improves conspicuity of lesions obscured by the apposing mucosal surfaces of the vestibule, the oral cavity proper, and the tongue, improving CT diagnosis.

References
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