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Reply:

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REPLY:

We appreciate Dr Ginsberg's interest and comments on our article, "Comparison of MR Imaging and Dual-Energy CT for the Evaluation of Cartilage Invasion by Laryngeal and Hypopharyngeal Squamous Cell Carcinoma."[1] We agree that the hypopharyngeal cancer case (presented in Fig 1) demonstrated lateral extralaryngeal tumor extension through wrapping around the posterior border of the thyroid cartilage on both MR imaging and dual-energy CT. Therefore, this case was defined as T4a disease, regardless of the cartilage invasion finding. We agree that determining both extralaryngeal extension and thyroid cartilage penetration is extremely important for treatment decision-making. Tumors that extend through potential spaces such as the thyrohyoid membrane and the thyroarytenoid gap might behave differently from those that penetrate through the cartilage, with the latter being more aggressive and potentially more likely to fail nonsurgical therapy.[2,3] However, in clinical practice, patients with T4 disease do not always inevitably undergo laryngectomy, and patients without transcartilaginous tumor extension may be potential candidates for function-preserving treatment to some degree, and discussion with the patients forms part of the treatment decision-making process. Accurate diagnosis to avoid overestimation of thyroid cartilage invasion is important in the treatment decision-making process, irrespective of extralaryngeal spread. Beitler et al[4] reported that extralaryngeal spread without thyroid cartilage penetration was more common than previously expected in patients with advanced laryngeal and hypopharyngeal cancers and that CT often involved an overdiagnosis in predicting cartilage penetration with a sensitivity of 75%.

In our study, extralaryngeal tumor extension was confirmed pathologically in 34 of 55 (62%) patients with advanced hypopharyngeal and laryngeal cancers; however, only 17 of 34 (50%) patients demonstrated cartilage invasion.[1] Extralaryngeal spread can be reasonably well identified on conventional CT, dual-energy CT,[5] and MR imaging; however, extralaryngeal spread "with cartilage invasion" is sometimes overdiagnosed using conventional CT and MR imaging.[5-7]

As Dr Ginsberg has mentioned concerning laryngeal cancer, tumor erosion limited to the inner cortex of the thyroid cartilage indicates a T3 lesion, whereas erosion of the outer cortex of the thyroid cartilage defines a T4a tumor. However, unlike the larynx, thyroid or cricoid cartilage invasion in hypopharyngeal cancers indicates a T4a lesion, even with localized cartilage invasion, and accurate staging requires a precise diagnosis of subtle cartilage invasion. Dual-energy CT may be helpful as a first-line technique for accurate staging to define the T-stage, particularly when distinguishing T4 from lower-stage lesions and to detect regional lymph nodes (N-staging) and distant metastasis (M-staging).[8] Contrast-enhanced MR imaging remains useful for excluding cartilage invasion and for evaluation of prevertebral space invasion in patients with very advanced local disease.

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