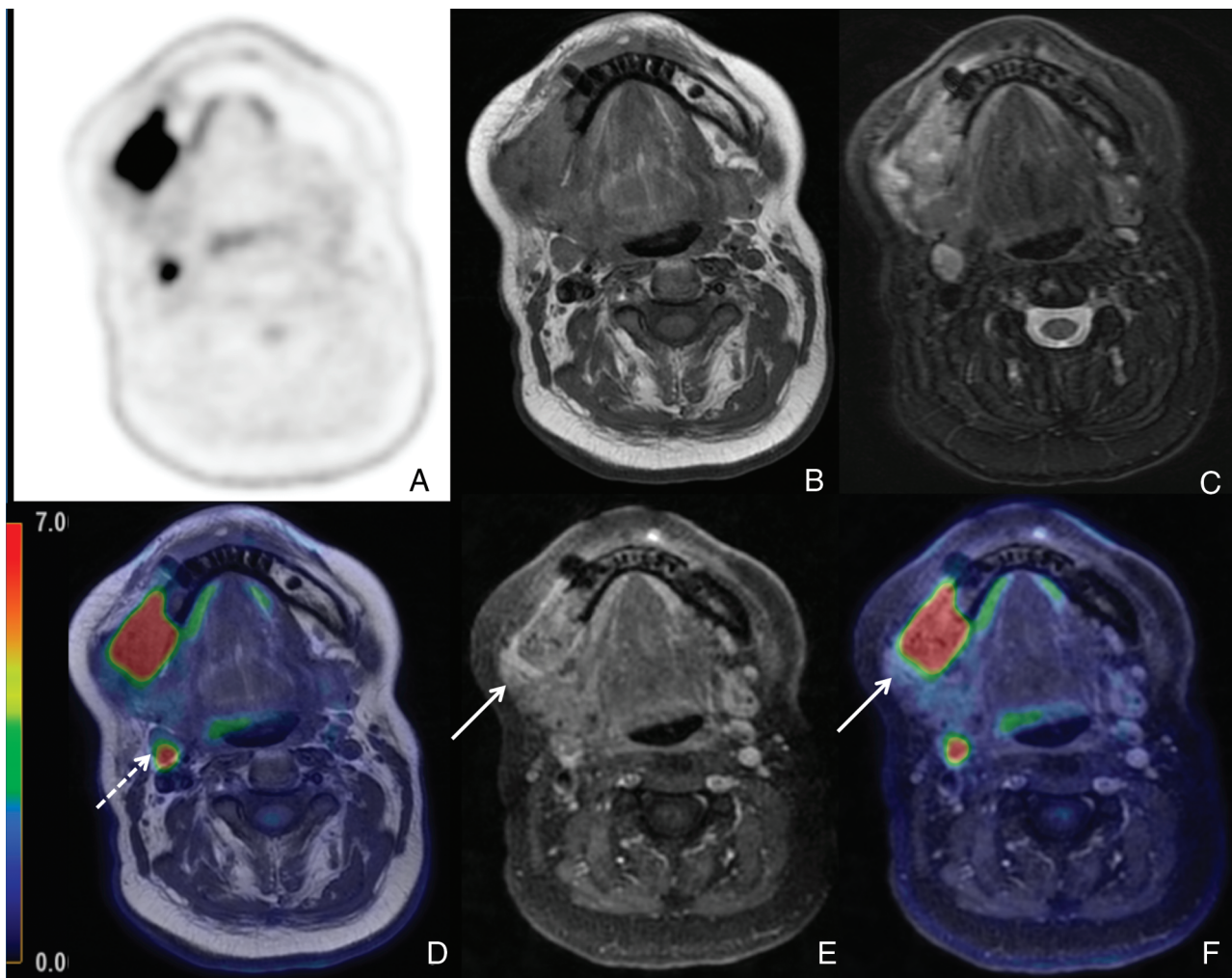
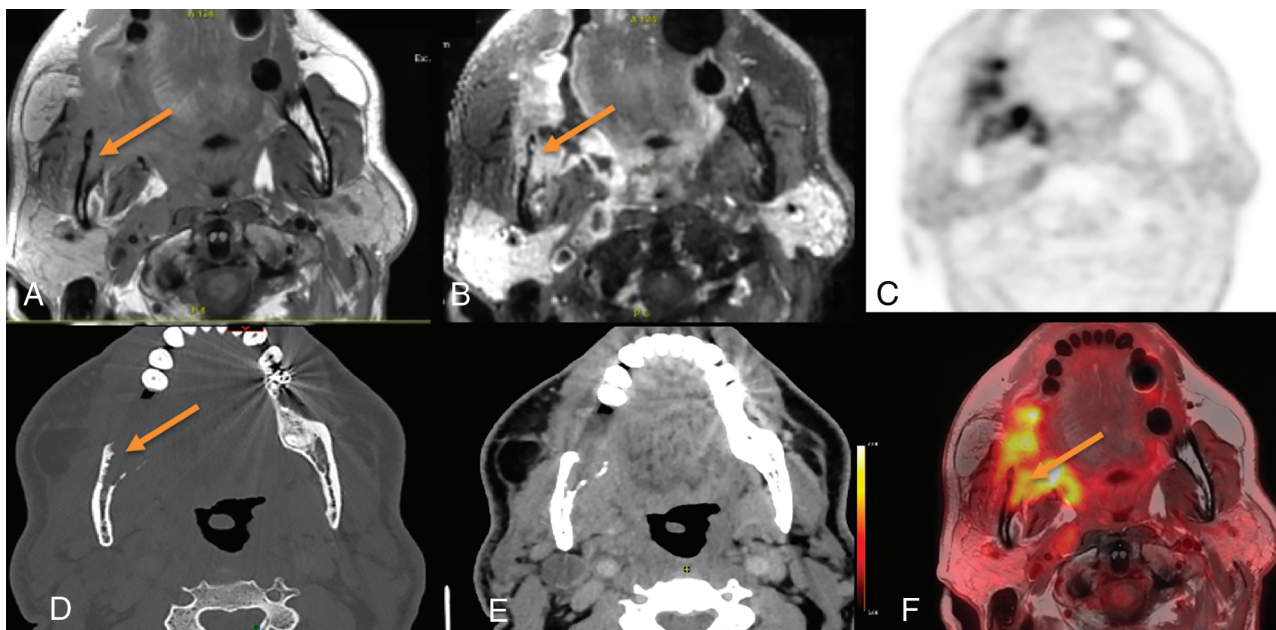


On-line Table: Agreement between tumor invasion assessment in 45 anatomic regions

Region Extension	Total Number of Lesions	κ Gadolinium-Free vs Gadolinium Session	κ: 2 Rater Groups, Gadolinium Free	κ: 2 Rater Groups, Gadolinium
Median line involvement	6	0.92	0.85	0.85
Vascular extension	1	0.9	0.09	0.08
Mandibular cortical bone	10	1	0.8	0.8
Mandibular medullary bone	8	1	1	1
Intermaxillary commissure	4	0.9	0.86	0.9
Vestibule	12	1	0.86	0.86
Skin	3	0.9	0.68	0.6
Mobile tongue	6	1	0.78	0.78
Palatoglossal arch	3	0.85	0.63	0.65
Palatine tonsil	2	0.87	0.45	0.28
Floor of mouth	9	1	0.68	0.68
Submandibular glands	1	1	0.37	0.37
Base of the tongue	0			
Epiglottis	0			
Hypopharynx	0			
Soft palate	3	0.95	0.47	0.41
Hard palate	5	1	0.82	0.82
Maxillary bone	3	1	0.91	0.91
Maxillary sinus	3	1	1	1
Masseter muscle	4	0.95	0.82	0.86
Pterygoid muscles	1	0.96	1	0.96
Pterygoid plate	1	1	0.65	0.65
Temporal muscle	1	1	1	0.91
Infratemporal fossa	12	1	0.8	0.8
Nasopharynx	0			
Nasal fossa	2	0.91	0.63	0.74
Ethmoid bone	0			
Orbital floor	0			
Sphenoid bone	0			
Frontal bone	0			
Subarachnoid spaces	1	1	1	1
Cerebral parenchyma	0			
Prevertebral space	0			
Prevertebral muscles	0			
Vertebrae	0			
Parotid glands	1	0.73	0.46	0.45
Facial artery	0			
Perineural extension (V)	1	1	0.52	0.52
Perineural extension (VII)	2	0.79	0.65	0.39
Hyoid bone	0			
Supraglottis	0			
Vocal cords	0			
Subglottis	0			
Thyroid cartilage	0			
Cricoid cartilage	0			



ON-LINE FIG 1. Initial staging of a right gingiva-mandibular squamous cell carcinoma in a 46-year-old woman. A, Axial ^{18}F -FDG-PET image. B, Axial T1-weighted spin-echo (SE) sequence. C, Axial T2-weighted IDEAL sequence. D, Axial T1-weighted SE ^{18}F -FDG-PET/MR image. E, 3D T1-weighted fat-saturated SE postcontrast sequence, axial plane. F, Axial T1-weighted fat-saturated SE postcontrast fused with ^{18}F -FDG-PET/MR imaging. Medullary bone invasion of the right mandibular bone is visible on all modalities. FDG-PET has added value by precisely indicating the limits of the perimandibular soft tissue invasion equally when combined with contrast-free (D) or with postgadolinium T1-weighted MR imaging (F). FDG-PET also reveals the absence of right submandibular gland involvement, which was doubtful on MR imaging alone (both contrast-free and postcontrast images).



ON-LINE FIG 2. Initial staging of right intermaxillary commissure squamous cell carcinoma. *A*, Axial T1W spin-echo (SE) sequence. *B*, 3D T1-weighted fat-saturated SE postcontrast sequence, axial plane. *C*, ^{18}F -FDG-PET axial image. *D*, CT in bone window, axial plane. *E*, Postcontrast CT, axial plane. *F*, Fusion between axial T1-weighted SE sequence and ^{18}F -FDG-PET. Both T1-weighted FDG-PET/MR imaging with and without gadolinium showed medullary bone invasion (*arrow*). Whereas the cortical bone involvement is better identified on CT, medullary bone invasion is easily detected on MR imaging (*A* and *B*) and on fused images (*F*). Soft tissue invasion is better identified on both T1W with and without gadolinium contrast (*A* and *B*) than on postcontrast CT (*E*) and the addition of ^{18}F -FDG-PET increases the precision of tumor delineation (*F*).