(18)F-FDG-PET/CT versus panendoscopy for the detection of synchronous second primary tumors in patients with head and neck squamous cell carcinoma

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BACKGROUND.: This study assesses the additional value of (18)F-fluoro-2-deoxy-D-glucose positron emission tomography/CT ((18)F-FDG-PET/CT) with respect to synchronous primaries in patients undergoing panendoscopy for staging of head and neck squamous cell carcinoma. METHODS.: In all, 311 patients underwent both modalities. Cytology, histology, and/or clinical/imaging follow-up served as reference standard. RESULTS.: The prevalence of second primary tumors detected by panendoscopy was 4.5%, compared with 6.1% detected by (18)F-FDG-PET/CT. The sensitivity for panendoscopy was 74%, the specificity was 99.7%, the positive predictive value (PPV) was 93%, and the negative predictive value (NPV) was 98%. The sensitivity for (18)F-FDG-PET/CT was 100%, the specificity was 95.7%, the PPV was 59%, and the NPV was 100%. CONCLUSIONS.: (18)F-FDG-PET/CT is superior to panendoscopy. With a negative (18)F-FDG-PET/CT, the extent of endoscopy can be reduced to the area of the primary tumor. Due to the costs, (18)F-FDG-PET/CT is recommended only in advanced disease to assess potential distant disease. In early-stage cancer, panendoscopy is accurate enough to rule out secondary tumors. (c) 2009 Wiley Periodicals, Inc. Head Neck, 2009.