

Value Of FDG-PET-CT In Screening For Synchronous Cancer In Patients With H&N Malignancies

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Abstract

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Purpose: To document incidence of synchronous cancer of other organs using pre-treatment planning PET-CT in patients with Head and Neck (H&N) cancer.

Material and Methods: Study period April 2012- December 2014. RT-planning FDG PET-CT's were evaluated on all H&N patients who received FDG PET-CT based radiation therapy planning as standard of care. This study examined the impact of pre-treatment radiation planning FDG PET-CT in addition to standard planning CT and MRI compared to planning CT and MRI only on the definition of CTV high risk. All patients had standard non-contrast enhanced CT simulation followed by MRI and FDG PET-CT radiation planning scans in the planned treatment position. In addition to differences to CTV high risk, the frequency and origin of FDG avid synchronous malignancies was documented.

Results: A total of 110 patients are enrolled in this ongoing study. Median age=62 years (range: 45-88). Sex=87 males and 23 females. As a result of the planning FDG PET-CT, CTV high risk was changed in 44 (40%) of the patients. In 16 (14.5%) patients FDG avid synchronous primaries were found (contra lateral Tonsil=5, Thyroid=2, Base tongue=1, Lung= 3, Colon=1, Stomach=1, Ca breast recurrence=1, Hepatocellular carcinoma=1 and Kidney=1).

Conclusions: Previous research has shown that patients with primary H&N cancer have an excess risk of developing a second primary when compared to the general population (lung cancer 20-year cumulative risk of 13%) and that this increased risk may be attributed to the carcinogenic effects of tobacco and ethanol. Our findings focus on detection of synchronous primaries at the time of initial H&N RT-planning process. Further studies are needed to clearly define the role of FDG PET-CT in H&N cancers.

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