RESEARCH HIGHLIGHTS

IMAGING

FDG-PET accurately detects distant disease

The prognosis for patients with squamous-cell carcinoma of the head and neck is dependent upon the risk of development of distant metastases and second primary malignancies. It is, therefore, very important that accurate and reliable diagnostic methods are used in these patients. Chest radiography and chest CT are commonly used at diagnostic work-up in patients with head and neck cancer, but unfortunately distant metastases and second primary tumors are sometimes missed at this stage.

Studies have shown that PET with ^{18}F -fluorodeoxyglucose (FDG-PET) is highly sensitive in detecting malignancies. Krabbe and colleagues predicted that whole-body FDG-PET might be useful during the initial staging of head and neck squamous-cell carcinoma to identify distant metastases and second primary malignancies below the clavicular level in a single diagnostic step.

In their study, Krabbe and coauthors compared FDG-PET with chest CT and chest radiography. The records of 149 patients who had undergone whole-body FDG-PET for initial staging of squamous-cell carcinoma of the head and neck were reviewed.

The authors found that FDG-PET was able to detect distant metastases and second primary tumors with superior specificity and sensitivity compared with CT and radiography. With regard to detecting distant disease, FDG-PET had a sensitivity of 92% and specificity of 93%, compared with 74% and 61% for chest CT and 41% and 91% for chest radiography, respectively. Most of the second primary tumors and distant metastases were detected in the lung.

The authors commented that, “FDG-PET could be considered as a first diagnostic modality for detecting second primary tumors and distant metastases.” There

are, however, limitations to the study, including its retrospective nature and the fact that patients who died after the median follow-up period could have had unconfirmed malignancies below the clavicular level.

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Original article Krabbe, C. A. *et al.* FDG-PET and detection of distant metastases and simultaneous tumors in head and neck squamous cell carcinoma: a comparison with chest radiography and chest CT. *Oral Oncol.* 45, 234–240 (2009).