

Abstracts from international literature

The therapeutic impact of [¹⁸F]-2-fluorodesoxyglucose PET for the staging and monitoring of oral cancer: a comparative study of PET before and after preoperative radiochemotherapy with CT and histologic data

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The lack of sensitivity and specificity of conventional imaging techniques based on morphological criteria is responsible for considerable limitations in the staging and surveillance of oral cancer. Therefore, this study investigated the contribution of [¹⁸F]-2-fluorodesoxyglucose (FDG) positron emission tomography (PET) to tumour management, with special regard to lymph node involvement and therapeutic monitoring after radiotherapy. In this prospective, observational study, 21 patients with advanced oral cancer, predominantly T3/T4, were evaluated. FDG-PET scans before and after preoperative radio(chemo)therapy were performed and standardized uptake values (SUV) were determined for the tumour site and lymph node areas. PET scans were correlated to histological findings after ablative tumour surgery. FDG-PET yielded superior sensitivity and specificity for tumour and lymph node assessment. The effect of radiotherapy was reflected by the metabolic activity of the tumour, which showed a close correlation with the decrease of FDG uptake and histologic tumour regression. PET detected distant metastases and simultaneous tumours. The authors concluded that FDG-PET is a challenging imaging technique with the potential to improve the staging procedure for oral cancer. In the monitor-

ing of metabolic activity of the tumour in the course of radio(chemo)therapy, FDG-PET allowed objective measurement of the treatment response.

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Prognostic factors for long term results of the treatment of patients with malignant submandibular gland tumors

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Malignant submandibular gland tumour is a rare disease entity, and there are few recent reports of long term treatment results and of prognostic factors modifying these results.

The clinical data of 43 patients with malignant submandibular gland tumours who were treated at the Netherlands Cancer Institute between 1973 and 1994 were reviewed to evaluate treatment results and to investigate described prognostic factors. The median follow-up for patients alive at the end of follow-up was 143 months. Only univariate analyses were performed. The crude 5- and 10-year survival rates were 50% and 36%, respectively; the 5- and 10-year disease-specific survival (DSS) rates were 61% and 51%, respectively; and the 5- and 10-year recurrence-free percentages were 57% and 52%, respectively. Factors predicting crude survival were age at diagnosis ($P=0.0006$), International Union Against Cancer/American Joint Committee on Cancer (UICC/AJCC) TNM classification and its regrouping into tumour stage ($P=0.001$), and clinical skin invasion ($P=0.005$). In surgically treated patients, soft tissue invasion ($P=0.005$), meta-

static lymph nodes ($P=0.006$) and perineural growth ($P=0.01$) were prognostic for survival. Factors predicting DSS were the UICC/AJCC TNM classification and regrouping into tumour stage ($P=0.002$). In surgical patients, perineural growth ($P=0.0008$) conferred a lower DSS. Factors predicting tumour recurrence were the UICC/AJCC TNM classification and its regrouping into tumour stage ($P=0.009$). In surgical patients, perineural growth ($P=0.003$) predicted tumour recurrence. Of patients with submandibular gland carcinoma treated according to a stable treatment protocol in a European tertiary referral center, 52% were tumour-free 10 years later. Patients exhibiting the described adverse prognostic factors are likely to benefit from added radiotherapy.

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Detection of premalignant oral lesions in hamsters with an endoscopic fluorescence imaging system

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Various methods of detecting cancer with fluorescence have been developed. One type of fluorescence is based on the tumour-localising properties of certain dyes. However, the phototoxicity of most known tumour-localising dyes hinders the safe use of such diagnostic methods. The authors have developed a fluorescence imaging system to detect the distribution of a nontoxic dye, fluorescein, and they have evaluated the feasibility of the system by using it to detect oral dysplastic lesions in hamsters. Dysplasia was induced in the cheek pouches of hamsters by application of the carcinogen 9,10-dimethyl-