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DEDICATED HEAD AND NECK 18F-FDG PET/CT PROTOCOL IN DETECTING CERVICAL LYMPH NODE METASTASIS

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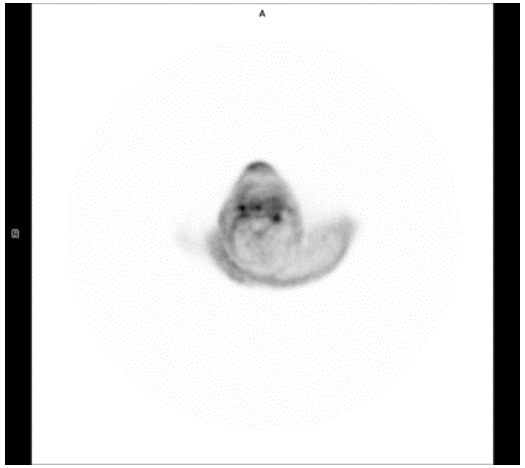
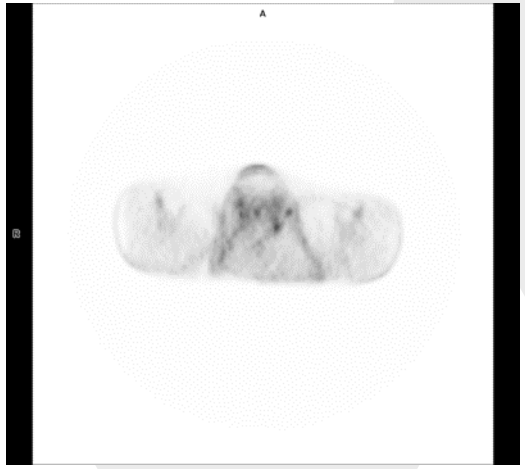
PURPOSE: The purpose of this study is to compare dedicated head and neck PET/CT protocol to standard torso PET/CT protocol in detecting cervical lymph node metastasis in patients with head and neck cancer.

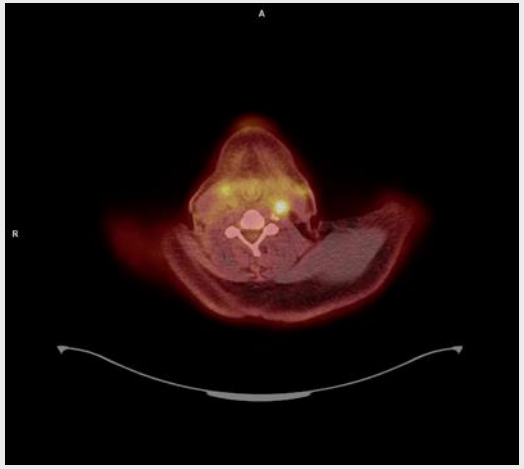
MATERIALS AND METHODS: Retrospective study consisted of patients with head and neck cancer who underwent 18- FDG PET-CT examination in the last six months in our institution after chemo or/and radiotherapy. All of the PET/CT examination consisted of dedicated head and neck scanning (cranial base to the thoracic inlet in an arm-down position, three bed positions - 3 min per bed position), followed by standard torso scanning (skull base through the proximal thighs with arms in a raised position - 2 min per bed position). CT scan parameters were identical in both scanning: 120 kVp, 30 mAs (reference, Siemens CareDose), 5 mm slice thickness and FOV of 50 cm. FDG uptake was evaluated visually and number of lesions were compared.



Head&neck protocol

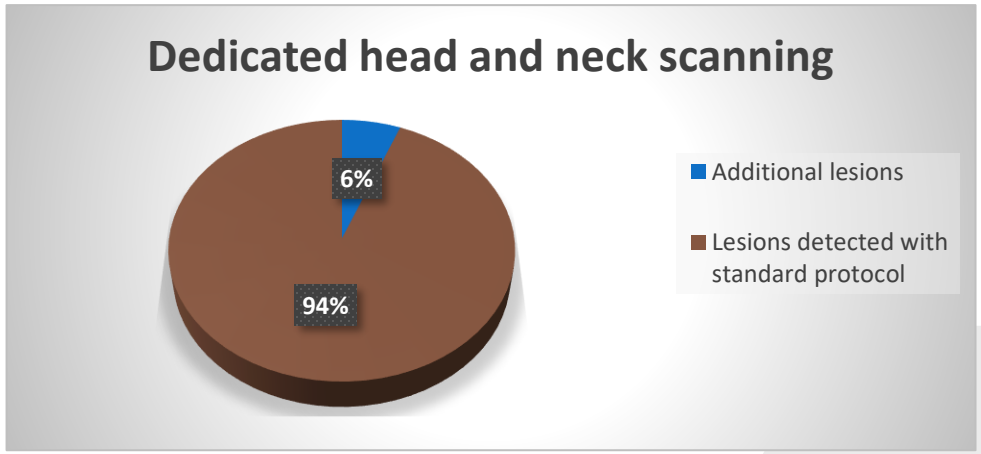


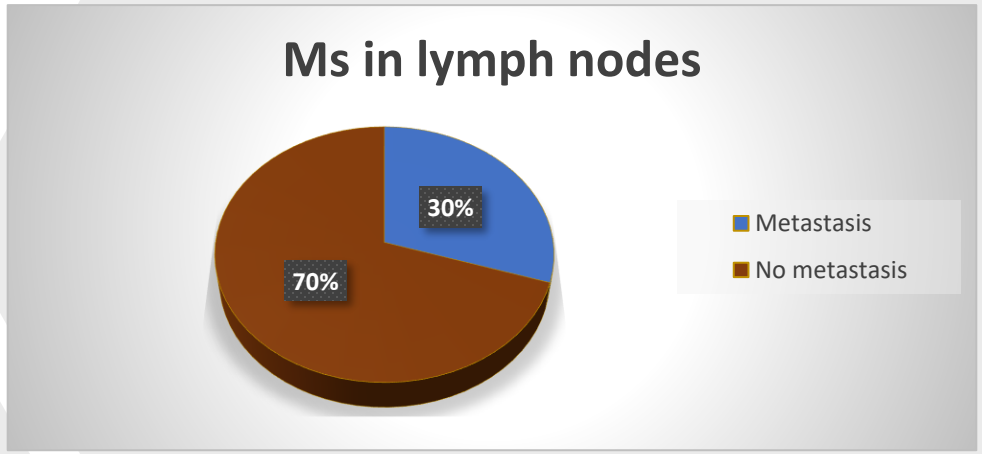
Standard protocol



Fusion head&neck protocol

RESULTS: 30 patients (21 men, 9 women; age range 23-72 years) underwent 18- FDG PET-CT. In 9 patients (9/30, 30%) increased metabolic activity was detected in lymph nodes suggestive of metastasis. 26 metastasis were detected using dedicated head and neck scanning, compared to 23 with standard torso scanning (26 vs 23). Only in two patients (2/30, 6%) additional lesions were seen with the dedicated head and neck scanning.





CONCLUSION:

Dedicated head and neck scanning helped us detect additional lesions in only 6% of the patients and consequently did not influenced the treatment plan.