

## PET-CT APPLICATION FOR ADJUSTMENT OF THYROID CANCER TREATMENT ALGORITHM

**Olena Oliinichenko<sup>2</sup>, Firsova M M<sup>1</sup> and Poliakova N I<sup>2</sup>**

<sup>1</sup>P L Shupik National Medical Academy of Postgraduate Education, Ukraine

<sup>2</sup>Kyiv Municipal Clinical Oncology Center, Ukraine

**C**ase-records of 10 patients with an average of 54 years have been analyzed taking into account the ability of PET/CT to provide information on tumor biology, its metastases and prognostic factors. Among them nine were females and one was male. PET/CT was applied to decide on possibility to conduct primary or repetitive iodine therapy courses. There were two cases of mixed medullary follicular carcinoma, one case of mixed medullary papillary carcinoma and one case of follicular papillary carcinoma with medullary lesion. Only one patient within this group has been approved for repetitive iodine therapy courses after investigation with PET/CT. Four patients had prolongation suspicion and resistance to radioactive iodine: two of them with growing level of thyroglobulin 135.3 and 532.0 ng/mL registered during the year and additional new lesions detected by CT and two with stably elevated level of thyroglobulin 8.4-8.9 ng/L and 9.3-9.8 ng/L during two years of monitoring. All of them had negative iodine scans. Investigation has detected high level of standard uptake value (SUV) from eight to 24 in patients with high level of thyroglobulin. Consequently, iodine therapy was not planned for these patients. Results of instrumental examinations proved no foci in patients with stably elevated level of thyroglobulin; additionally no pathological uptake of 18F-FDG has been registered. In two patients with the following primary diagnosis: poorly differentiated adenocarcinoma, syndrome of neck tumor compression and medullary carcinoma with metastatic lesions of lymph nodes, PET/CT has been applied to detect additional lesions and their metabolic activity (in lungs and lymph nodes with SUV>9). Outcome of PET/CT application: the investigation enabled adjustment of treatment algorithm in five patients and was useful as a prognostic tool in other patients.

### Biography

Olena Oliinichenko has studied in Bogomolets National Medical University, Kyiv and graduated in 2009. She has completed her Internship in Radiology from Bogomolets National SMedical University in 2011 and special training courses in Nuclear Medicine in P L Shupyk National Medical Academy of Postgraduate Education (NMAPE) in 2011. She worked as a Radiologist in Radiotherapy department of Kyiv Municipal Clinical Oncology Centre (2009-2011). She worked as a Nuclear Medicine Physician until now and currently she holds the position of Head of PET/CT department in Centre of Nuclear Medicine of Kyiv Municipal Clinical Oncology Centre. She is a Member of EANM, IASLC. She has completed several trainings by IAEA. She has published fifteen papers in core Ukrainian and several international journals.

elenosol86@gmail.com