

OP-244**Impact of interim PET staging with SSTR-analogs after two cycles of ¹⁷⁷Lu-PRRT in NET patients: a multicenter analysis**

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Aim/Introduction: Peptide-Receptor-Radionuclide-Therapy (PRRT) in neuroendocrine tumors (NET) generally includes four therapy cycles. While PET with SSTR-analogues is mandatory before PRRT, the value of interim PET staging after two cycles remains unclear. In this multicentric analysis, we evaluated the impact of interim PET staging on the continuation of PRRT after two cycles. **Materials and Methods:** 225 patients have been included (11 University of Augsburg, 107 LMU Munich, and 107 University of Würzburg). Clinical features including primary tumor, prior therapies, tumor localization in baseline and interim PET, and radiographic response in ⁶⁸Ga-DOTA-TATE / -DOTA-TOC PET/CT after two cycles including the appearance of any new lesion as progressive disease (PD) were noted. Factors causing an interruption of PRRT have been recorded. **Results:** Interim PET revealed partial response (PR) in 27 (12%), stable disease (SD) in 157 (70%), and PD in 41 (18%) patients. Primary tumors of patients with PD included gastrointestinal NET in 17, pancreatic in 10, lung in 5, CUP in 2, and others in 7 patients with G1 tumors (Ki-67 ≤2) in 10, G2 (Ki-67 3-20) in 16 and unknown Ki-67 in 15 patients including 5 lung NET. There were no significant differences compared to patients with SD and/or PR in interim PET. PRRT was continued in 168 (75%) and stopped after two cycles in 57 (25%) patients. Interim PET showed PD in 22 (39%), SD in 34 (59%), and PR in 1 patient (2%) of these 57 patients where PRRT was stopped. Main reasons for discontinuation of PRRT in patients with SD and PR in interim PET included impairment of renal function in 8 (23%) and hematotoxicity in 5 patients (14%). Other clinical factors causing interruption of PRRT included preference of active surveillance due to ECOG worsening or low tolerability of PRRT. Contrary, PRRT was continued in 19 patients with PD in interim PET. **Conclusion:** In this large cohort of NET patients, interim PET only had minor impact with regard to discontinuation of PRRT after two cycles, with even approximately 50% of patients continuing PRRT despite radiologic PD. This indicates that PRRT should be performed with 4 cycles in case of good clinical tolerability, and that interim PET after two cycles is of limited value with regard to a change in management. Nonetheless, PD is observed in almost 20% of patients after two cycles, warranting further evaluation of response evaluation parameters including SSTR-PET.