

C-24

Peptide Receptor Radionuclide Therapy (Lu-177 DOTATATE) in Progressive Neuroendocrine Tumors (NETs): Potential Predictors of Progression Free Survival (PFS)

Mohmed Badawy¹, Geoffrey B. Johnson¹, Timothy Hobday¹, Annie T Packard¹, Manoj Jain², Thorvardur R. Halfdanarson¹, Jason R. Young¹, Matthew P. Thorpe¹, Rachel A. Eiring¹, Ayse Tuba Kendi¹
¹Mayo Clinic, Rochester, MN; ²Mayo Clinic, Jacksonville, FL

BACKGROUND: Lu-177 DOTATATE is widely used for well-differentiated NETs following progression on somatostatin analogs. We sought to evaluate the impact of peritoneal metastases, intrahepatic biliary ductal dilatation, ascites, number of Lu-177 DOTATATE cycles and intestinal obstruction on PFS in patients receiving Lu-177 DOTATATE

METHODS: Patients who received Lu-177 DOTATATE between September 2018 and October 2019 at Mayo Clinic, Rochester were included. CT or MRI was done 3 months and 6 months after their last treatment cycle and repeated every 6 months for follow-up. We reviewed the medical records for documentation of peritoneal metastases, intrahepatic biliary ductal dilatation, ascites, number of Lu-177 DOTATATE cycles and intestinal obstruction. Kaplan-Meier test, univariate and multivariate analyses were used as appropriate.

RESULTS: 94 patients were included (mean age 63±10 years, 55% male). The most common site of NETs primaries was the small intestine (52%). 40% of patients had prior targeted therapy (e.g. everolimus), 37% had prior chemotherapy and 16 % of patients received both chemotherapy and targeted therapy. In 3-year-follow-up after PRRT (median 17 months), median PFS was 19 months. In a Cox regression model, an increase in PFS was associated with completing 4 cycles of Lu-177 DOTATATE (HR= 0.04, P= <0.001) and no prior chemotherapy (HR= 0.4, P=0.027), whereas shorter PFS was associated with

the history of intestinal obstruction after receiving Lu-177 DOTATATE (HR= 4.3, P=0.023). Other factors were not statistically significant factors impacting PFS.

CONCLUSION: Lu-177 DOTATATE is an effective treatment modality in pretreated NET. Intestinal obstruction before receiving PRRT, intrahepatic biliary ductal dilatation, ascites, and peritoneal metastases were not associated with deteriorated PFS in patients treated with Lu-177 DOTATATE. History of intestinal obstruction after Lu-177 DOTATATE was an independent predictor of shorter PFS, while completing 4 cycles of Lu-177 DOTATATE and no prior chemotherapy showed improved PFS.

ABSTRACT ID: 54