# C-32

## Myelodysplasia and leukemia instances after PRRT: Experience from a tertiary institution

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### BACKGROUND

Peptide receptor radionuclide therapy (PRRT) was introduced in 2018 as one of the major advances in treatment of patients with neuroendocrine neoplasms (NENs). Initial results from the NETTER-1 trial suggested a very low percentage of secondary hematological malignancies, including myelodysplastic syndrome (MDS) and acute myelogenous leukemia (AML). We sought to confirm that data in a large institutional database.

### METHODS

Under an institutional IRB we perused the data from every patient who underwent PRRT at Washington University in St Louis. We identified patients with a subsequent diagnosis of MDS or AML. We extracted data on basic demographics, treatment details and lag time from PRRT end to hematological malignancy diagnosis.

### RESULTS

A total of 176 patients were treated between 2017 and 2021. Eight patients (4 male, 4 female) or 4.5% were diagnosed with MDS/AML by hematopathology while another one had a strong suspicion of MDS. All but one patient had received 4 fractions of PRRT. MDS was the most common diagnosis (5/8) followed by AML (2/8) and one patient with aplastic anemia. Cases appeared at a rate of 1-2 per year. Latency periods ranged from 5 months to 5 years and 3 months, with AML cases diagnosed at 2 years and 3 months and 4 years and 10 months post end of PRRT. Three patients are alive while 5/8 have expired. Cytogenetic analyses are underway.

### CONCLUSIONS

In a real-life setting we have identified a rate of 4.5% MDS/AML post PRRT, with leukemia cases appearing more than 2 years post end of treatment so far. The latency to hematological malignancy diagnosis can reach more than 4 to 5 years post end of PRRT and thus cannot entirely be attributed to radionuclide treatment. An updated analysis with cytogenetic panels and consideration of prior and follow-up treatments is underway.

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