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Institutional Retrospective Review of Peptide Receptor Radionuclide Therapy Use in Metastatic Paragangliomas and Pheochromocytomas

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BACKGROUND

Metastatic paragangliomas (PGL) and pheochromocytomas (PCC) are rare neuroendocrine diseases with an incidence of 2 to 8 people per million, a prevalence between 1:2500 and 1:6500 and a strong hereditary disposition. However, due to the rarity of the disease, there is relatively limited data on treatment options, including radionuclide therapy using radioisotope analogs of MIBG and dotatate. There are a few published small series on clinical benefits of treating PGL and PCC with peptide receptor radionuclide therapy (PRRT).

METHODS

In this retrospective review of our PRRT patients, treated between May 2018 to March 2023, we have identified a total of 9 patients with histologically confirmed biopsies of either PGL or PCC. We evaluated the 9 patients in terms of number of PRRT cycles completed, time to progression and overall survival.

RESULTS

A total of 9 patients were reviewed. Majority of the patients (6 out of 9) had completed all 4 cycles of PRRT, while 2 of the 9 patients had progressed after 2 cycles of PRRT and 1 of the 9 patients did not complete cycle #4 due to severe anemia. Of the 6 patients that had completed all 4 cycles of PRRT, 1 had progressed within a year of completion of PRRT, 1 was lost in follow-up, 2 had progressed by 26 months and 2 still with durable response. Interestingly, 1 of the 6 patients who had completed all 4 cycles of PRRT and with durable response had ^{131}I-MIGB 4 years prior to PRRT. Of the 6 patients who had completed all 4 cycles of PRRT, 4 patients are alive, 1 lost in follow-up and 1 decreased (more than 36 months after completing PRRT).

CONCLUSIONS

With limited data on the use of PRRT in PGL and PCC, we examined our treated PRRT patients from May 2018 to March 2023 and had identified 9 PGL and PCC patients. Although our sample size is small, we conclude that this therapy appears safe and may be beneficial as a treatment option for metastatic PGL and PCC.

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