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Phase II Trial Evaluating [177Lu]Lu-DOTA-TATE in Adolescents with Somatostatin Receptor (SSTR)-positive Gastroenteropancreatic Neuroendocrine Tumors (GEP-NETs), Pheochromocytomas and Paragangliomas (PPGLs)

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BACKGROUND

GEP-NETS and PPGLs in pediatric patients are rare; however, recognition of these diseases has increased recently. 10–20% of pediatric patients with GEP-NETs and up to 47% of pediatric patients with PPGLs present with metastatic disease at diagnosis. The disease is often unresectable with poor prognosis, and very few non-surgical therapies are approved for these patients. Due to paucity of data surrounding treatments for pediatric patients with advanced GEP-NETs and PPGLs, there are high unmet needs in this population. SSTR subtype-2 is overexpressed by GEP-NET and PPGL tumors; therefore, it is a relevant target for radioligand therapy with [^{177}Lu]Lu-DOTA-TATE. [^{177}Lu]Lu-DOTA-TATE is approved in the United States for adult patients with SSTR-positive GEP-NETs. It has demonstrated efficacy and an acceptable safety profile in several studies evaluating adult patients, but clinical data supporting use in pediatric GEP-NETs and PPGLs are limited. The need for additional treatment options for adolescents with GEP-NETs and PPGLs provides a strong rationale to evaluate [^{177}Lu]Lu-DOTA-TATE in these patients.

METHODS

This multicenter, phase II, open-label, single-arm study will evaluate the safety and dosimetry of [^{177}Lu]Lu-DOTA-TATE in adolescent patients (12 to <18 years old) with advanced, inoperable, SSTR-positive GEP-NETs (grade 1/2, well differentiated) in the primary cohort and PPGLs in the exploratory cohort. Eligible patients will receive 4 cycles of [^{177}Lu]Lu-DOTA-TATE (7.4 GBq/cycle), administered every 8 weeks. After the last dose, patients will be followed for 5 years. Radiation dosimetry and pharmacokinetic (PK) assessments will be done after the first [^{177}Lu]Lu-DOTA-TATE administration. Safety assessments will be performed regularly after each cycle and during follow-up. Primary endpoints are target organ absorbed radiation dose and incidence of adverse events (AEs) after the first cycle. Secondary endpoints are AE incidence within 6 months (short-term follow-up) and 5 years (long-term follow-up) after last dose, PK and dosimetry versus predicted values.

Efficacy will be assessed as an exploratory objective, including objective response rate, progression-free survival, and overall survival in both cohorts.

This study (NCT04711135) will enroll ≥8 patients with GEP-NETs and as many patients with PPGLs as possible across sites in the United States (Iowa, Kentucky, Ohio, Pennsylvania, and Texas), Canada, and Europe. Due to the rarity of these diseases, patient referrals will be highly important.

RESULTS

Study recruiting.

CONCLUSIONS

Study recruiting.

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