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KinLET: Phase I Trial for Dose Determination and Pharmacokinetics Evaluation of [177Lu]Lu-edotreotide Radiopharmaceutical Therapy in Pediatric Participants with SSTR+ Tumors

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BACKGROUND

Current therapy options for pediatric patients with SSTR-positive solid tumors/lymphoma are limited. Considering the rarity of SSTR-positive tumors in the pediatric population, a broad patient screening effort is critical for this trial. Target tumors include neuroendocrine tumors, central nervous system tumors, lymphoma, peripheral primitive neuroectodermal tumors (Ewing family sarcomas), gastrointestinal sarcoma, or rhabdomyosarcoma.

METHODS

KinLET is a phase I, multicenter, open-label, interventional trial that aims to determine the appropriate pediatric dosage based on the safety profile and evaluate pharmacokinetics of [177Lu]Lu-edotreotide in pediatric participants with recurrent, progressive, or refractory SSTR-positive solid tumors and lymphoma. Furthermore, the anti-tumor activity by tumor type will be preliminarily assessed using the parameters objective response rate, overall survival, progression-free survival, and duration of response. The correlation between immunohistochemical SSTR expression and functional imaging will be determined. In addition, the safety of [177Lu]Lu-edotreotide RPT as monotherapy or following sequential standard of care will be evaluated and a quality-of-life evaluation will take place. At least 20 pediatric participants (≥2 to <18 years old) will be included in three sequential age cohorts.

Sequential Age Cohorts and Dose of [177Lu]Lu-edotreotide

	Cohort 1	Cohort 2	Cohort 3
Age	≥12 - <18 years	≥6 - <12 years	≥2 - <6 years
Number of participants*	≥6	≥6	≥6
Starting dose**	100 MBq/kg, at maximum 7.5 GBq	Based on at least cycle 1 data from 4 participants of Cohort 1***	Based on at least cycle 1 data from 4 participants of Cohort 2***

*Total ≥20 eligible participants; ≥6 of them with gastroenteropancreatic neuroendocrine tumors

**Dosing within each cohort based on at least cycle-1 data from 2 participants

***Decision by Data Monitoring Committee

Treatment will consist of two to six cycles of intravenous infusion of [¹⁷⁷Lu]Lu-edotreotide at eight-week (± 2 w) intervals. For kidney protection, an arginine-lysine solution will be co-infused. Dosimetry assessments, based on SPECT/CT, whole-body planar imaging and blood radioactivity PK measurements will be assessed at several time points post [¹⁷⁷Lu]Lu-edotreotide infusion.

For all cycles, the median kidney absorbed dose may not exceed 23 Gy and the median bone marrow dose should remain below 2 Gy. Cycles can be delayed for recovery from dose-modifying toxicity. Follow-up will consist of two years of monitoring for progression-free survival and an additional simplified follow-up for three years.

RESULTS

NA

CONCLUSIONS

Trial in progress, Clinical Trial Information: NCT06441331

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