
PRRT: From Europe to the US
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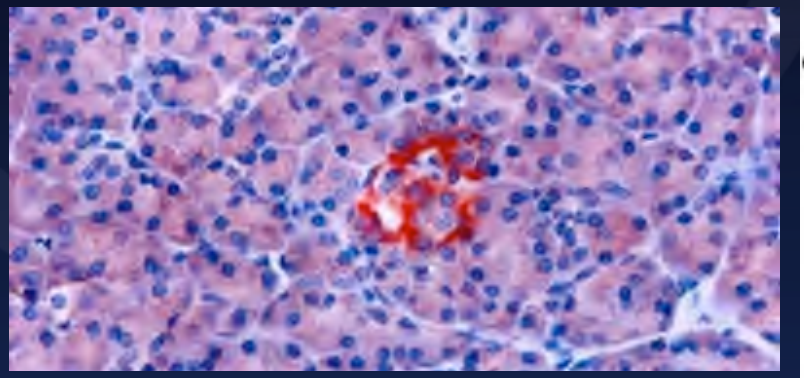
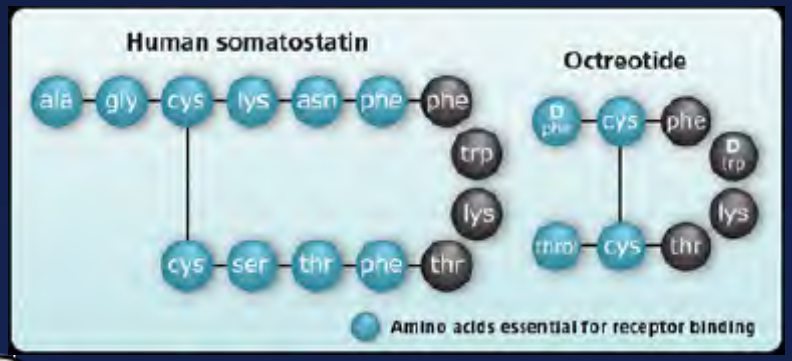
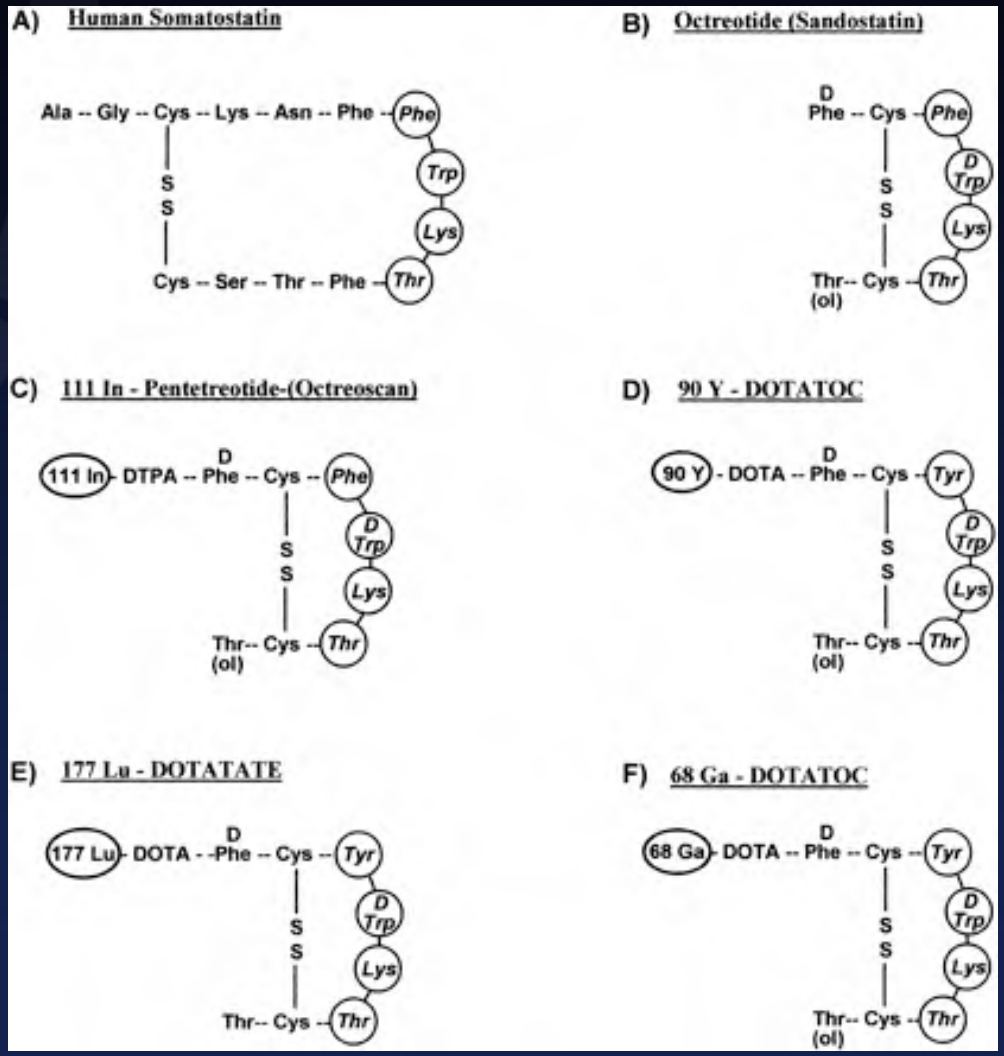
Outline

1. What is Peptide Receptor Radionuclide Therapy (PRRT)?
2. History of PRRT
3. Current status and availability of PRRT in Europe and the US
4. Eligibility for NETTER-1 trial

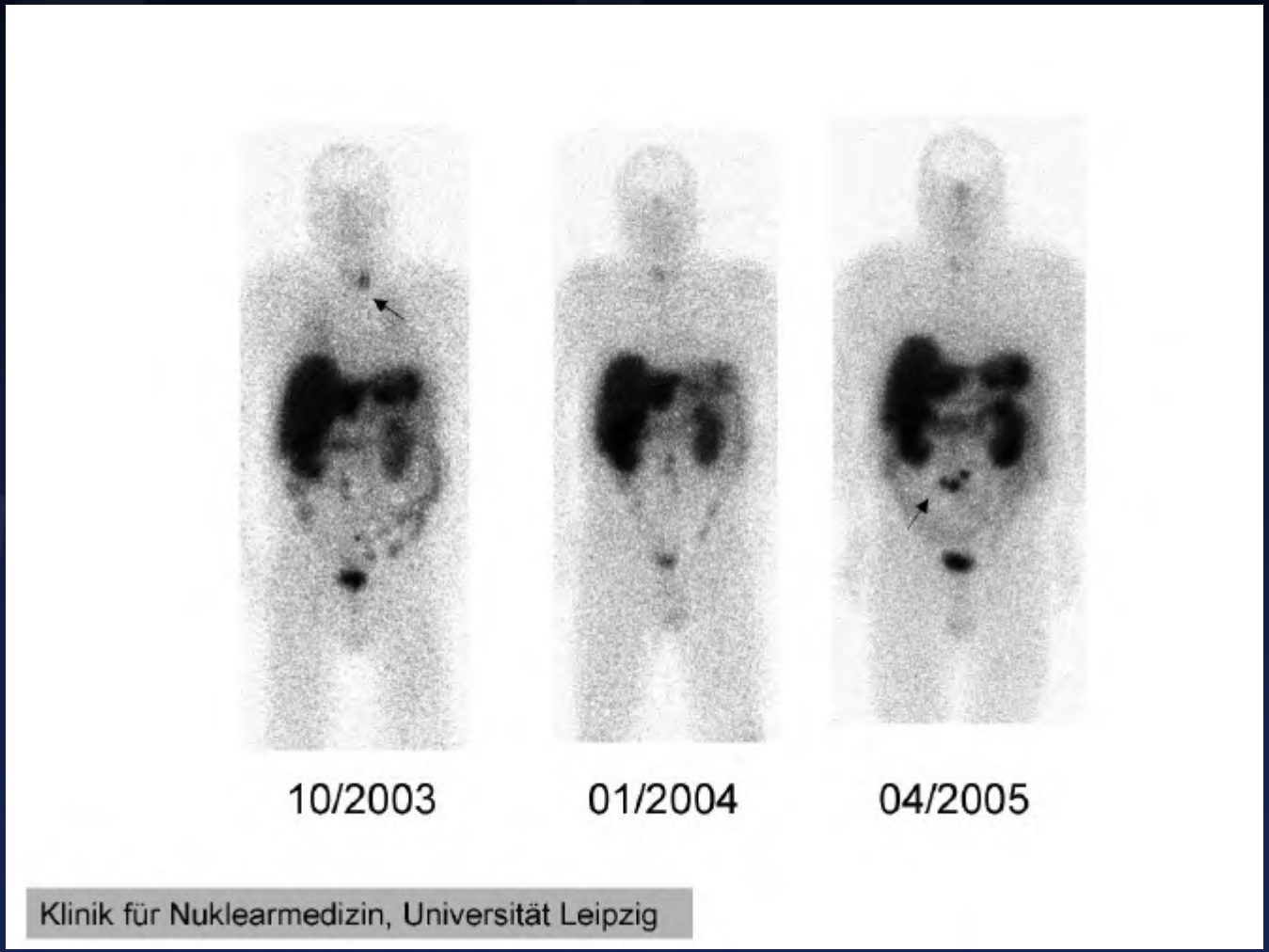
Somatostatin and NETs



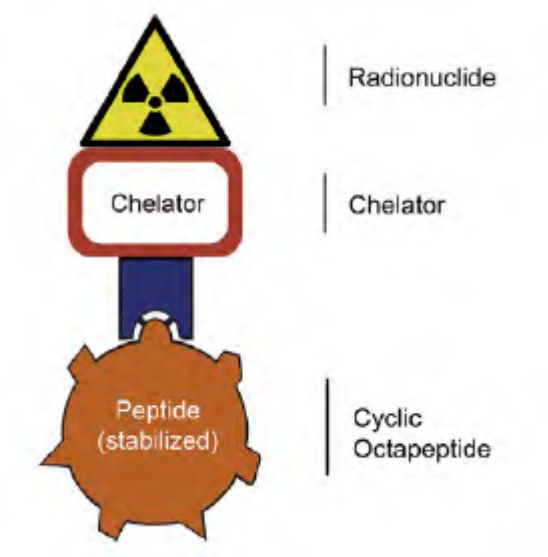


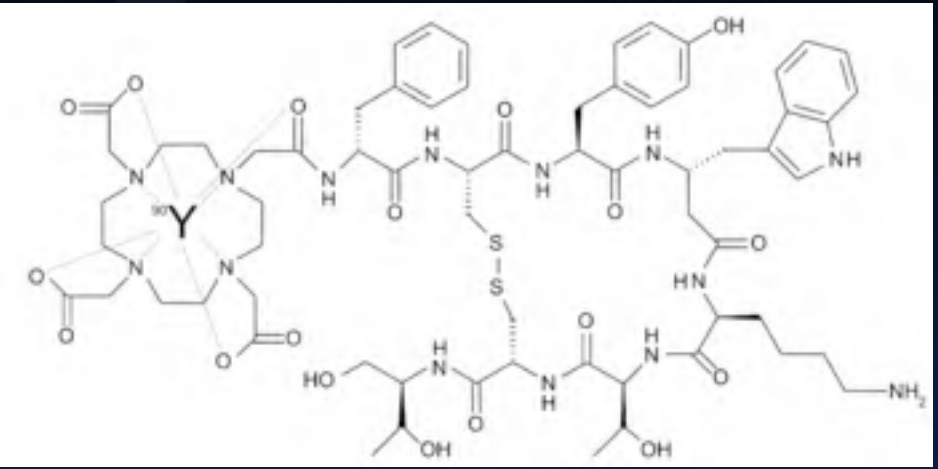


OctreoScan Imaging of NETs



Peptide Receptor Radionuclide Therapy (PRRT)





- PRRT started with [^{111}In]-DTPA^{0}-octreotide (1990s)
- Next: [^{90}Y]-DOTA^{0}-Tyr^{3}-octreotide (mid 2000s)
- Most recent: [^{177}Lutetium]-DOTA^{0}-Tyr^{3}-octreotate (Lutathera®) (late 2000s)

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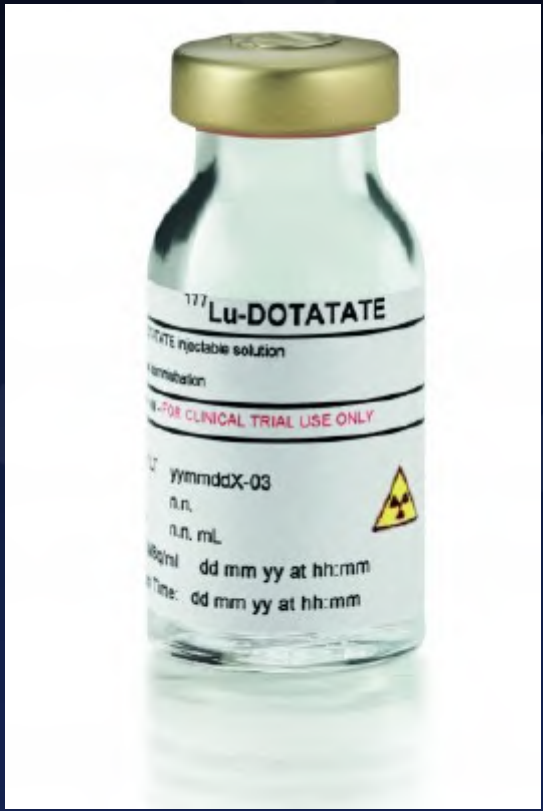
ORIGINAL REPORT

Treatment With the Radiolabeled Somatostatin Analog [^{177}Lu-DOTA^{0},Tyr^{3}]Octreotate: Toxicity, Efficacy, and Survival

Dik J. Kwekkeboom, Wouter W. de Herder, Boen L. Kam, Casper H. van Eijck, Martijn van Essen, Peter P. Kooij, Richard A. Feelders, Maarten O. van Aken, and Eric P. Krenning

- Phase II results in progressive midgut carcinoid showed Progression-Free Survival of more than 44 months compared to the reported 14.6 months of Novartis' Sandostatin® LAR
- Lutathera® was shown to increase overall survival by between 3.5 and 6 years in comparison to current treatments, including chemotherapy.
- Quality of life may also be improved.

Lutathera



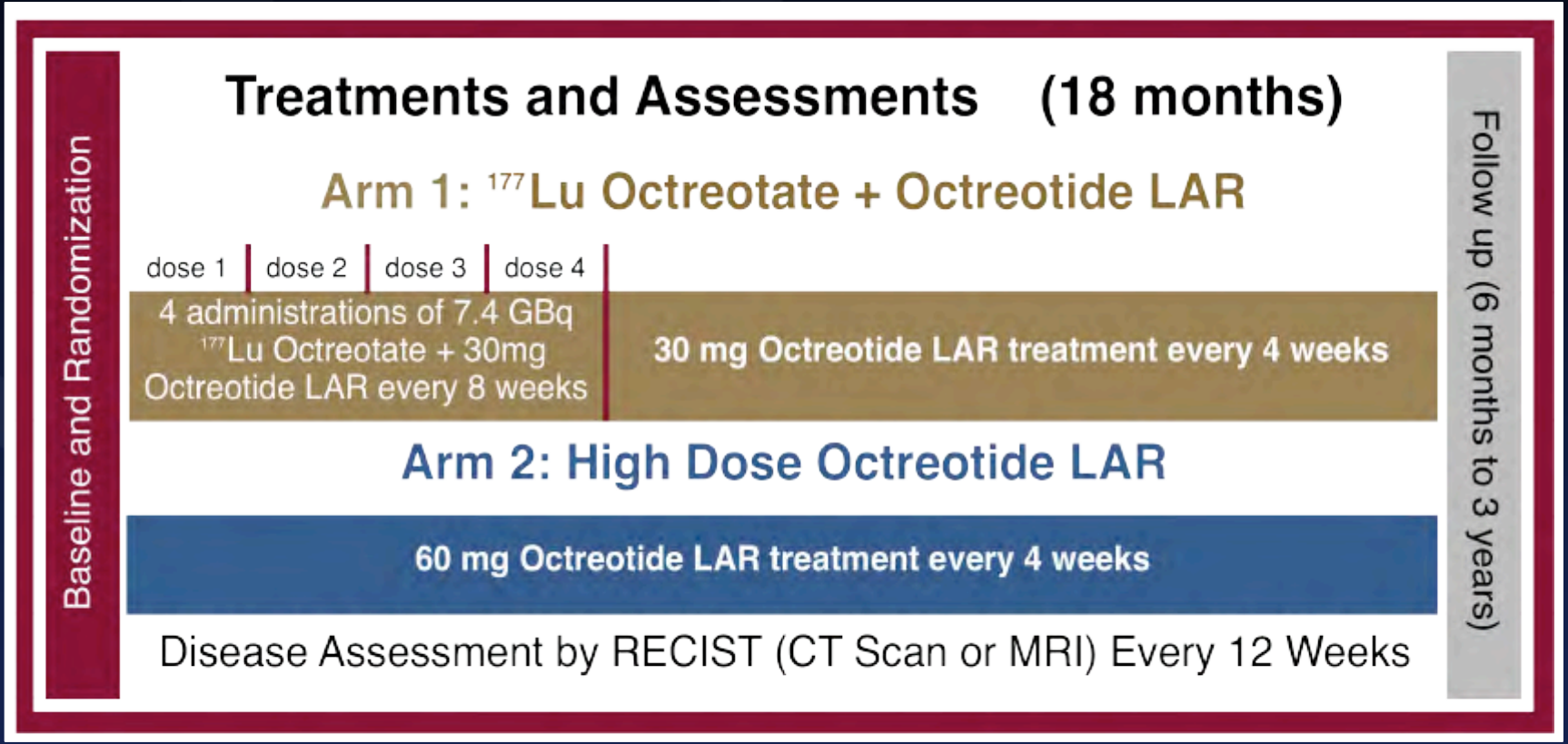
- Lutathera® ([^{177}Lutetium]-DOTA^{0}-Tyr^{3}-Octreotate), is a radiolabeled somatostatin analog that can be used to treat metastatic gastro-entero-pancreatic neuroendocrine tumors (GEP-NETs).
- Lutathera® kills these tumors by selectively targeting somatostatin receptors that are over-expressed on tumor cells.

Current Clinical Trial: NETTER-1

- International, multi-center trial comparing Lutathera® to Sandostatin® LAR in patients with midgut carcinoid tumors.
- **Sponsor:** Advanced Accelerator Applications
- **Eligibility:** Patients with inoperable, progressive, OctreoScan positive, well-differentiated neuroendocrine tumors of the small bowel (midgut carcinoid tumors), who are treated with 20-30 mg Octreotide LAR every 3-4 weeks for at least 12 weeks prior to enrollment
- **Primary objective:** To compare Progression Free Survival (PFS) of Lutathera to high dose (60 mg) Octreotide LAR

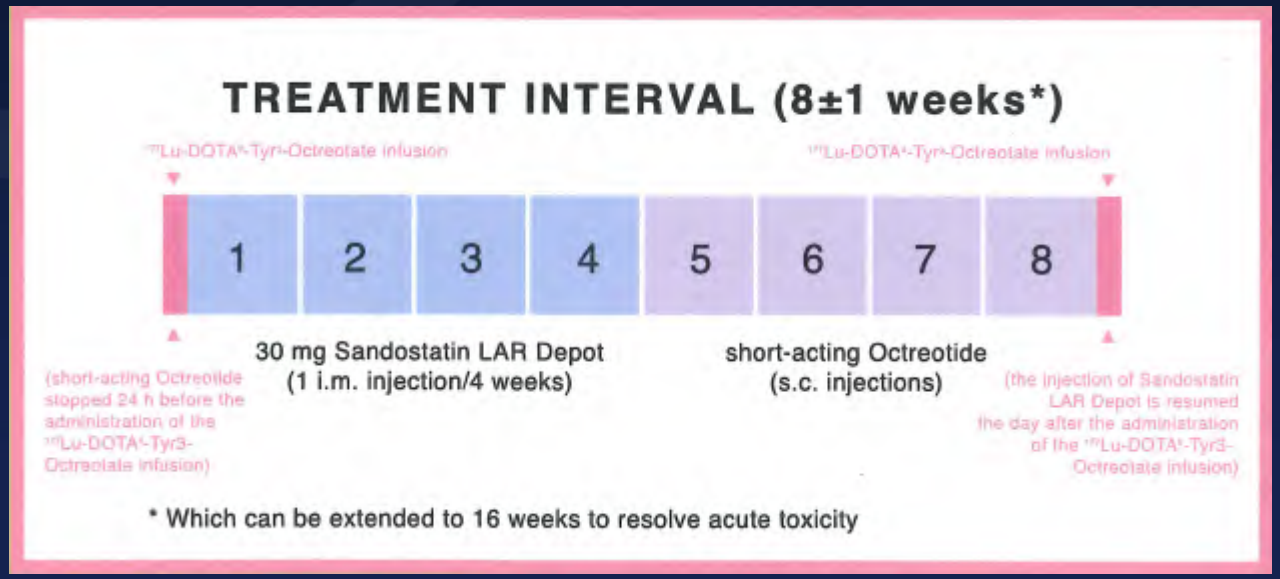
NETTER-1 US Sites

Lutathera vs High Dose LAR Arm



Lutathera Arm: Details

- 4 injections of Lutathera given every 8 +/- 1 weeks for a cumulative dose of 800 mCi.
- Remain at clinical site for 4-5 hrs after administration, and then must follow precautions to reduce radiation exposure to others.




-- Thank you --
http://nuclearmedicine.stanford.edu