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Editorial

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Statements for peptide receptor radionuclide therapy from JNETS

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Editorial

Lutetium oxodotreotide, one of the peptide receptor radionuclide therapy (PRRT) [1,2], was approved in Japan on June 23, 2021 for patients with somatostatin receptor-positive neuroendocrine tumors (NETs). We would like to make statements regarding appropriate use of PRRT in Japan from the Japan Neuroendocrine Tumor Society (JNETS).

Lutetium oxodotreotide is used in an environment where patients can be admitted to a "radiation therapy" room "or" a room with special measures "for at least one day after administration to prevent exposure to caregivers and the public. Appropriate patient care such as radiation protection measures including excrement management is required. Thus, the management of lutetium oxodotreotide is strict, In addition, the number of patients who can be accepted even in a manageable facility will be limited because the treatment is repeated 4 times every 8 weeks and some patients require treatment with radionuclides other than NETs.

Recently, JNETS has revised the clinical practice guidelines [3] in response to PRRT's insurance coverage in Japan. Added recommendations for PRRT to the clinical question "Is radiation therapy recommended for pancreatic and gastrointestinal NETs?" Peptide receptor radionuclide therapy (PRRT) is recommended as an alternative treatment for somatostatin receptor-positive pancreatic and gastrointestinal NETs and for patients

who are refractory to other drugs after second-line treatment. (Grade A, agreement rate 100%).

As such, we need to be fully aware of the followings: Due to the limited number of patients who can provide lutetium oxodotreotide treatment, PRRT has been established as an alternative treatment for patients who are refractory to other drugs after the second-line treatment, and its efficacy for neuroendocrine cancer (NEC) has not been established.

In the future, patients who are ineffective after the second-line treatment and require urgent lutetium oxodotreotide treatment should be given priority, and for that purpose, it is necessary to build a network with facilities that can carry out the treatment. Information on Lutetium oxodotreotide is listed in the (Table 1).

Table 1: Lutetium oxodotreotide.

1. Efficacy or effect
Somatostatin receptor-positive neuroendocrine tumor
2. Usage and dosage
In general, for adults, administer 7.4 GBq of lutetium oxodotreotide (177 Lu) once over 30 minutes by intravenous drip infusion up to 4 times at 8-week intervals. The dose may be reduced as appropriate depending on the patient's condition.
3. Precautions related to usage and dosage
To reduce renal exposure due to administration of this drug, administer an infusion solution containing only 25 g each of L-lysine hydrochloride and L-arginine hydrochloride as amino acids in 1000 mL from 30 minutes before administration of this drug.
4. Serious side effecta [4,5,6].
(1) Bone marrow suppression
Lymphocytopenia (28.3%), thrombocytopenia (22.8%), anemia (11.8%), etc. may occur.
(2) Renal dysfunction
Acute renal failure (4.7%), increased blood creatinine (3.1%), etc. may occur.
(3) Myelodysplastic syndrome (1.6%), acute myeloid leukemia (incidence unknown)

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