

Neoadjuvant ¹⁷⁷Lu-DOTATATE for non-functioning pancreatic neuroendocrine tumours (NEOLUPANET): multicentre phase II study

Surgical removal of non-functioning pancreatic neuroendocrine tumours (NF-PanNETs) can often cure patients. However, it is not known whether treating patients before surgery provides additional benefits. The main aim of the study was to investigate safety of treatment called peptide receptor radionuclide therapy with ¹⁷⁷Lu-labelled DOTA0-octreotate (¹⁷⁷Lu-DOTATATE) before surgery in patients with NF-PanNETs. The NEOLUPANET study was conducted from March 2020 to February 2023 across multiple centres. Patients with NF-PanNETs that were at high risk of recurrence after surgery were included. All patients received ¹⁷⁷Lu-DOTATATE before surgery. The main measure of success was safety, reflected by complications or death within 90 days after surgery. The study enrolled 31 patients and 26 completed four cycles of ¹⁷⁷Lu-DOTATATE. Tumours shrank partially in 18 patients, and in 13 patients the tumour remained the same. No tumours increased in size. The entire tumour was removed in 28 of 29 patients. No patients died, but 72% had some complications (severe in 7 patients). The study found that using ¹⁷⁷Lu-DOTATATE before surgery is safe and useful for treating patients with NF-PanNETs.

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