Impact of ALPPS on management of patients with neuroendocrine liver metastases

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Background

The incidence of neuroendocrine (NE) tumours (NET) has steadily increased over the last four decades. Depending upon the primary tumour site and tumour grade, up to 70% of patients with NET originating from the pancreas or small intestine have with liver metastases (LM) at the initial diagnosis (Frilling A et al. Lancet Oncol 2014). The majority of NE LM is not amenable for complete resection since they exhibit either type II (isolated metastatic bulk accompanied by smaller deposits) or type III (disseminated metastatic spread) morphologic growth (Frilling A et al. Br J Surg 2009). Non- surgical treatment options such as somatostatin analogues (Caplin M et al. Lancet Oncol 2015), 177 Lutetium peptide receptor radionuclide therapy (Strosberg J et al, N Engl J Med 2017) or mTOR inhibitors (Yao JC et al. N Engl J Med 2011) have shown in randomised controlled trials to significantly prolong progression-free survival of patients with advanced NET, however they failed to have effect on over-all survival. There is urgent unmet need to implement new technologies such as ALLPS in the management of patients with NE LM.

Aim

We are aiming to analyse the data of patients with NE LM included in the ALLPS registry. At this stage approximately 30 NE LM patients are registered. The primary endpoint of our analysis will be resection rate (R0/R1) in NE LM patients who were initially considered as not resectable and underwent ALPPS. The secondary endpoints will be progression free survival after ALPPS, overall survival after ALPPS, overall survival from initial NET diagnosis, morbidity and mortality of the procedure, and translational studies during the patient journey (*tumour transcripts [Modlin IM, Frilling A et al. Surgery 2015], metabonomic profiling [Kinross J, Frilling A et al. Surgery 2014] and mRNA profiling [Miller H, Frilling A et al . Endocrine Related Cancer 2016]).

Hypothesis

1. ALPPS increases the resection rate of NE LM.
2. ALPPS improves over-all survival of patients with NE LM.
3. ALPPS serves as an attractive model to study “omics” during a cancer patient journey.

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