

The evaluation of the effectiveness and safety of transarterial embolization of liver metastasized neuroendocrine tumours

ABSTRACT Transarterial embolization (TAE) is an effective treatment for liver metastases from neuroendocrine tumour (NET). It reduces arterial blood flow to the tumour resulting in ischemia and necrosis. In this single centre retrospective study the effectiveness and safety of TAE was evaluated.

PATIENTS AND METHODS

30 patients with histological confirmed gastro-entero-pancreatic NET with liver metastases were investigated. Tumour response, effect on *carcinoid syndrome*, the overall survival and adverse events were evaluated.

RESULTS Among 30 patients (15 male) 47 TAE procedures were performed. The median age was 61.5 years. The number of patients with a decrease in liver tumour on CT were significantly higher when liver involvement before TAE was <50%. There was a significant decrease in tumour marker *chromogranin A* both 1 and 3 months after TAE ($p=0.001$ and $p=0.017$, resp.). 80.9% of the cases had a decrease of neuroendocrine liver metastases after TAE. 26 patients had *carcinoid syndrome* of which 88% had a decrease in clinical symptoms at 1 month follow up. This was 69.6% at 3 months follow up. Liver functions assessed 1 and 3 months after TAE compared to baseline values show a significant increase.

ADVERSE EVENTS 2 patients had major TAE related complications. No TAE related death occurred.

SURVIVAL The overall survival at 1 year follow up is 86.7%, which is not statistically different compared to the overall survival of the group of patients who had a second or third TAE.

CONCLUSION Transarterial embolization is a safe treatment for the liver metastasized NET which can be repeated in a single patient and leads to a reduction of *carcinoid syndrome* and shows a significant decrease in *chromogranin A*. Radiological decrease rate is significantly higher in patients who have less than 50% tumour load in the liver.

