Resection of Liver Metastasis in Midgut Neuroendocrine Tumors Affects 10 - Year Survival

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Background

Midgut neuroendocrine tumors (mNETs) are frequently diagnosed after hepatic metastasis occurs, with a 5-year survival of 50%.

Hypothesis

We hypothesized that surgical cytoreduction of hepatic metastasis would impact survival rates.

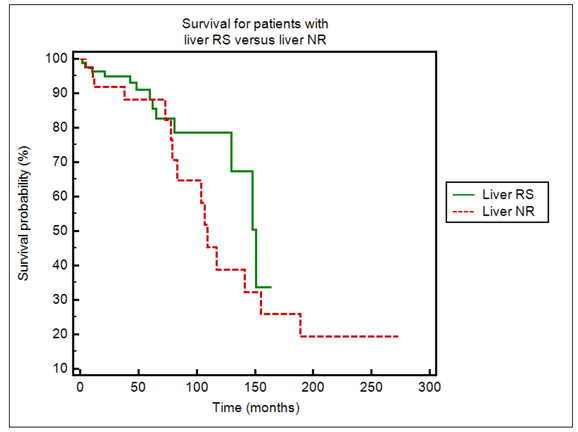
Methods

Review of 1,362 NET patient charts revealed 319 patients with stage IV, well differentiated, mNETs of the jejunum and ileum. Patients with loco-regional disease only were excluded. M1 denoted metastasis confined to either the liver or extra-hepatic sites only (lung, pelvis, bone, ovary, pancreas, diaphragm). M2 denoted extensive metastatic disease to both the liver and other sites. Patients were further stratified based on resection status. Survival data was calculated using the Kaplan-Meier method.

Results

Factor	n= (Total n=319)	Median Survival (months)	5 Year Survival Rate	10 Year Survival Rate
Distant metastasis (M)				
M0 (No distant disease)	Not Included	Not Included		
M1:	154			
M1LR:	80	151	88%	79%
M1LNr:	37	109	88%	39%
M1OR:	31	Not Reached	84%	70%
M1ONr:	6	Not Reached	100%	67%
M2:	165			
M2R:	147	142	82%	64%
M2Nr:	18	134	82%	55%

M1: Metastasis to either the liver (L) or extra-hepatic sites (O) only
M2: Extensive metastatic disease to both the liver and other sites
R: Resected
Nr: Not resected



Kaplan-Meier survival curve for patients that had their liver metastasis resected (n=80; median survival= 151 months) versus those patients that did not have their liver metastasis resected (n=37, median survival= 109 months)

Of the 319 patients with distant disease, 117 had liver metastasis only, 37 had extra-hepatic metastasis only, and 165 had both (M2). For M1 patient's liver resected (n=80), liver not resected (n=37), extra-hepatic resected (n=31), extra-hepatic not resected (n=6) the five year survival rates were: 88%, 88%, 84%, and 100% respectively. The ten year survival rates were 79%, 39%, 70%, 67% respectively. For M2 patients that had been resected (n=147) and M2 patients not resected (n=18) the five year survival rates were 82% and 82% respectively. The ten year survival rates were 64% and 55% respectively.

Conclusions

Debulking of hepatic metastasis had a positive effect on 10-year survival ($p<0.0001$). Debulking of extra-hepatic disease had little effect on survival. Resection of hepatic metastasis is recommended. However, larger studies are required to assess the impact of debulking in extra-hepatic metastasis.