

# Lymph Node Positivity in Patients With Small T1 and T2 Midgut Neuroendocrine Tumors

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## Background

Midgut neuroendocrine tumors (NETs)  $\leq 1$  cm (T1) are thought to have a low incidence (0-15%) of positive nodes. T2 lesions (1.1-2 cm) have a 60% incidence of positive nodes.

## Hypothesis

We hypothesize that in a referral practice, the incidence of lymph node positivity from small midgut primaries is much higher than what is seen in the community.

## Methods

The charts of 401 consecutive patients, with well differentiated neuroendocrine NETs of the “small bowel” (midgut) were reviewed. Ninety-six patients with T1 solitary primary tumors ( $\leq 1$  cm) and T2 (1.1-2 cm) were evaluated based on their number of metastatic lymph nodes. The lymph node status was obtained from the pathology report of their initial surgery. The remaining 305 excluded patients had multiple primaries or primaries greater than 2 cm.

## Results

Lymph Node	N=
NX (Unknown)	2
N0 (No positive nodes)	9
N1 ( $\leq 1$ cm)	4
N2 (1.1-2 cm)	14

Table illustrating the incidence of lymph node positivity in patients with midgut primaries  $\leq 1$  cm is 18/29 (62%).

- Twenty-nine patients had a primary tumor size of  $\leq 1$  cm.
- Eighteen patients (18/29, 62%) presented with nodal metastasis.
- Sixty-seven patients had a solitary primary tumor size between 1.1 and 2 cm.
- Sixty-two patients (62/67, 93%) presented with nodal metastasis.

## Conclusions

Based on our review the incidence of lymph node positivity (62-93%) in small midgut NETs is much higher than what is generally accepted. We believe this may be related to an institutional referral bias. Multi-institutional trials are needed to determine the actual incidence of lymph node metastasis in patients with small midgut NETs.