

Does the ENETS TNM Staging Criteria Predict Survival in Patients with Small Bowel Neuroendocrine Tumours?

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Background: A TNM staging system was designed by ENETS to stage small bowel NETs. This study aims to retrospectively stage patients with known small bowel primary NETs and see whether survival is dependent on stage and grade of disease and finally to identify cause of death.

Methods: 138 patients with small bowel NETs were identified from Kings College Hospital. Primary site: Duodenal 2.1% (3), Jejunal 2.9% (4), ileal 95% (131). Mean duration of follow-up of 5 years. Median age 61 years (range 24-84).

Results: TNM staging and follow-up data was available in 118 cases. Due to low numbers of Stage 2 and 3 tumours these were group together for comparison. There were four cases with stage 2, 23 cases with Stage 3 and 91 cases with stage 4 small bowel NETs. Kaplan- Meier plots were constructed these demonstrated a significant difference in survival between patients with different stage of disease ($P=0.03$). There was no significant difference in survival between stage 2 and stage 3 disease. There was a significant survival difference between G1 (Ki67 ≤ 2) vs. G2 (Ki67 3-20) $p=0.049$. There was a significant survival benefit in patients whom underwent resection of primary tumour compared to those who did not (120 vs 56 months, $p<0.005$). The overall 5 year and 10 year survival was 79.5% and 48.5% respectively for all patients independent of stage of disease. Of the patients that died the median time to death from diagnosis was 3 years (range 0-14). The cause of death was related to tumour burden in 50% (22 patients), carcinoid heart disease in 11.3% (5 patients), post intervention (1 case surgery, 1 case post-embolization) 4.5%, small bowel obstruction or perforation 13.6% (6 patients) and non-tumour related deaths in 24.5% (9) patients.

Conclusion: This study demonstrates the ENETS TNM staging prognosticates survival. Overall survival has improved compared to the published SEER data.