

**Epidemiology of Neuroendocrine Tumors in Ontario:
A 15-year Population-Based Study**

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Background: A recent study of the SEER database in the United States showed a 5-fold increase in neuroendocrine tumours (NETs) over the last 30 years. Conflicting reports of incidence trends have been reported worldwide. The objective of our study is to describe the incidence and anatomical distribution of NETs in Ontario, Canada.

Methods: A population based study was initiated using the Ontario Cancer Registry, cross-linked with the Registered Persons Database and the Canadian Institute of Health Information Discharge Abstract Database. All cases of NETs were identified in Ontario (> 13 million persons) from 1994 to 2009. Baseline demographic, clinical and outcomes data were abstracted.

Results: A total of N = 5619 cases were identified. The incidence rate increased from 2.46/100,000 (95% CI, 2.13-2.83) in 1994 to 5.86/100,000 (95% CI, 5.40 – 6.35) in 2009. The median age was 62 with 50.5% female cases. Bronchopulmonary NETs were the most common (22%), then jejunum/ileum (17%) and rectal (16%). The absolute increase was most pronounced for pNETs (6-fold), rectal (5-fold) and gastric (5-fold) NETs. Metastatic disease was documented in 45% of cases.

Conclusions: There appears to be a significant increase of reported cases of NETs in Ontario, Canada, particularly pancreas, rectum and gastric NETs. This supports much of the population-based reports worldwide. Further research is required to understand the impact of this cancer previously perceived to be rare but clearly increasing.