Survival of Patients with Neuroendocrine Tumors in Ontario over last 15 years

Background

• Increasing incidence of neuro-endocrine tumors (NETs) have been shown worldwide
• Recent data has confirmed a greater than 2x increase in NETs incidence from 1994-2009 in the province of Ontario, Canada (pop of approx 13 million people)
• Little is known about trends in survival or factors associated with survival during this period among this population

Objective

• To examine survival and associated prognostic factors of NETs patients in Ontario, Canada from 1994-2009

Methods

• A population based study was initiated using the Ontario Cancer Registry (OCR), cross-linked with the Registered Persons Database and the Canadian Institute for Health Information (CIHI) Discharge Abstract Database
• All NETs diagnosed between January 1994 and December 2009 were collected using ICD-9 diagnostic codes and ICD-O histology codes
• Baseline demographic, clinical and outcomes data were abstracted
• Overall Survival (OS) was calculated using Kaplan-Meier methodology and comparison between the groups was performed with log-rank test
• A multivariate model using Cox proportional-hazards regression was employed to test for factors independently associated with survival

Results

• A total of N=5619 cases were identified
• The 5-y OS among age groups: ≤ 50 (79%), 51-60 (67%), 61-70 (59%) and ≥ 71 (39%) [p < 0.0001]
• 5-year OS was compared for patients with and without metastatic disease after diagnosis (69.0% vs 40.1%, p<0.0001)

Discussion

• Survival among NETs patients decreases over time with less than 50% survival at 10 years
• Poor outcome factors include male sex, age of diagnosis, pancreatic primary, rural status and low income quintile
• The decreased survival among male patients is poorly understood and needs to be explored further
• It is possible that rural residence and low income may be related to decreased access to health care resources and possibly delayed diagnosis or sub-optimal treatments in this uncommon malignancy

Conclusion

• Survival appears to vary significantly according to anatomical site along with some demographic and socioeconomic factors
• Efforts should be made to promote awareness of this disease and to offer access to specialized health care for NET patients living in remote areas