C-37

Real-World Utilization of Circulating Biomarkers in Well-Differentiated Gastroenteropancreatic Neuroendocrine Neoplasms

Soubhi Tahhan, MS[1], Ahmed Al-Shammari, BS[1], Joseph Friedlander, MS[1], Jessica Taylor Reid, MS[1], Kristen Limbach, MD, FACS[2]

[1]Tulane University School of Medicine, New Orleans, LA; [2]Department of Surgery, Tulane University School of Medicine, New Orleans, LA

BACKGROUND

The real-world use of circulating biomarkers in well-differentiated gastroenteropancreatic neuroendocrine neoplasms (GEP-NENs) is poorly characterized. We evaluated biomarker utilization within 1 year of diagnosis by primary tumor site.

METHODS

The TriNetX US Collaborative Network (2013–2023) was analyzed for adults with well-differentiated neuroendocrine neoplasms of the stomach, pancreas, small intestine, or large intestine/appendix/rectum. Poorly differentiated neuroendocrine carcinomas were excluded. Biomarker utilization was defined as at least one LOINC-coded laboratory order for chromogranin A (CGA), urine or serum 5-hydroxyindoleacetic acid (5-HIAA), serotonin, pancreatic polypeptide, pancreastatin, or neuron-specific enolase (NSE) within 1 year of diagnosis. Utilization was evaluated descriptively by primary tumor site.

RESULTS

Among 27,692 patients, primary sites included stomach (n=2,608), pancreas (n=4,637), small intestine (n=11,939), and large intestine/appendix/rectum (n=8,508). CGA was the most frequently ordered biomarker across all sites, ranging from 16.8% in large intestinal/appendiceal/rectal primaries to 35.6% in pancreatic primaries. Urine 5-HIAA utilization was highest in small intestinal tumors (8.3%) and ranged from 2.9% to 4.5% in other sites. Serum 5-HIAA was infrequently ordered across all sites (0.8%–4.2%). Serotonin utilization was highest in small intestinal tumors (13.7%) and ranged from 5.9% to 8.7% in other sites. Pancreatic polypeptide testing was most common in pancreatic primaries (5.7%) but remained uncommon in other sites (0.6%–1.7%). Pancreastatin utilization ranged from 1.5% to 5.8%, while NSE testing was rare (≤0.3%).

CONCLUSIONS

Circulating biomarker utilization within 1 year of diagnosis was low and varied by primary site among patients with well-differentiated GEP-NENs. CGA remained the most frequently ordered biomarker, while site-relevant testing such as urine 5-HIAA was performed in a minority of patients with small intestinal tumors. These findings demonstrate substantial variation in real-world biomarker use and highlight the need for more standardized, evidence-based testing strategies.

ABSTRACT ID #36638