The Prevalence of Over the Counter Medication Use Among Patients with Mid-gut Neuroendocrine Tumors

Erika B. Lindholm, MD\textsuperscript{1}; Maneesh K. Gupta, MD\textsuperscript{1}; Anne Diebold BS\textsuperscript{1}; JP Boudreaux MD\textsuperscript{1}; Yi Z. Wang, MD\textsuperscript{1}; and Eugene A. Woltering MD\textsuperscript{1}

\textsuperscript{1}Department of Surgery, Louisiana State University, New Orleans, Louisiana 70130

**Background** Recent increases in the use of over the counter (OTC) medicines partnered with under reporting the use of these medications to physicians has sparked interest in the number and types of “supportive” therapies used by patients with neuroendocrine tumors. Patients with NETS are of special interest due to the potential interactions/interferences between tumor-associated peptide and amine production and the use of these supplements.

**Methods:** A retrospective analysis of patients with primary ileal or jejunal carcinoid between 1998-2012 was conducted to define and catalog each patient's prescription and OTC medications at each clinic visit. The most recently recorded patient medications were used for this analysis.

**Results:** 362 patients with small bowel primary NETS were studied. 187 patients (51.6%) were taking nutritional supplements. Of these taking supplements, the percent of patients taking 1, 2, 3, or >3 supplements is 28.3%, 24.1%, 22.5% and 25.1% respectively. Females (n=109) were more likely to take supplements in comparison to male (n=78), $p = 0.037$. The most popular supplement types were vitamins [162 patients (44.7%)], followed by elemental supplements [107 patients (29.5%)], botanical [28 (7.7%)] and amino acid [3 patients (0.8%)]. 51 patients (14.1%) took OTC proton pump inhibitors and 31 patients (8.6%) took Loperamide.

**Conclusion:** OTC supplement use is prevalent and is used by 50% of our patients with primary small bowel NETS. Over a third of our patients reported using three or more over the counter medicines daily. These medicines have the potential to interact with the metabolism of prescribed medicines, modify ability to clot during surgery and can potentially exacerbate NET symptoms. Given the prevalence of over the counter medication use and their potential actions it is important to carefully catalog and track their use.