Neoplasia in Patients with Atrophic Metaplastic Autoimmune Gastritis (AMAG): Screening and Surveillance Endoscopy Should Become Standard of Care

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Background: AMAG is an autoimmune condition in which antibodies attack oxyntic mucosa leading to intestinal metaplasia (IM), hypergastrinemia, and type 1 well-differentiated neuroendocrine tumors (WDNET). While IM is a well-established risk factor for adenocarcinoma in the esophagus, the risk of neoplastic progression in AMAG is thought to be low (2-3x general population). In contrast to Barrett esophagus (BE), current guidelines do not call for surveillance upper endoscopy in this population. We report the clinical/pathologic characteristics of AMAG patients who underwent evaluation at our center over a five year period to determine frequency/timing of neoplasias.

Methods: A database search (1/2010-11/2015) revealed 151 patients with AMAG. Patients with a previous history/histologic evidence of H.pylori, and patients with BE/gastric cardiac tumors were excluded. Clinical/pathologic data was recorded.

Results: See table 1. Of the 151 patients, 13 (8.6%) had a biopsy with dysplasia and/or carcinoma, with 11 (7.3%) developing invasive adenocarcinoma. Of the 11 patients with adenocarcinoma, 3 (27%) had a prior biopsy of dysplasia before developing carcinoma (78, 82, and 144 months after initial biopsy, respectively), while the remaining 8 (73%) were diagnosed on first biopsy. In all, 85% of patients (11/13) were diagnosed with dysplasia and/or carcinoma on first biopsy, despite some having a long-standing history of pernicious anemia (range of 0-20 y). 36/151 (24%) patients were diagnosed with at least one WDNET, with 2/36 developing lymph node and/or liver metastases. Overall, 9.9% (15/151) of patients had an adverse neoplastic event (dysplasia/carcinoma and/or metastasizing NET).

Conclusion: Our study shows that patients with AMAG have a clinically relevant incidence of developing adenocarcinoma. Similar to patients with BE, the risk of finding neoplasia is highest at first biopsy. Also, while most Type 1 WDNETs behave indolently, some cases metastasize. Given the high rate of adverse neoplastic events in AMAG, more stringent screening is recommended.

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Table 1: Clinical Characteristics of Patients Diagnosed with AMAG (n = 151)

Female (%)	81%
Age (years)(range)	61 (24-91)
Number of endoscopies per patient (range)	1.9 (1-8)
History of autoimmune disorder (%)	86/151 (57%)
History of hypothyroidism (%)	71/151 (47%)
Gastric pH (range)	6.8 (2.5*-7.0)
Gastrin (pg/mL) (range)	1151 (46^-5376)

*Single pt with pH of 2.5, had pathologic features of AMAG, biopsy negative for H.pylori by special stain (x2) and elevated gastrin. ^Single pt with gastrin of 46, had pathologic features of AMAG, negative for H.pylori on biopsy (H&E stain), and an elevated pH.