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Case Report

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Autoimmune Atrophic Gastritis Revealing an Incidental Fundic Carcinoma in a 45-Year-Old Woman: A Case Report

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ABSTRACT

Autoimmune atrophic gastritis is characterized by parietal cell loss, fundic gland atrophy, and intestinal or pyloric metaplasia. Patients commonly present with refractory dyspepsia and severe vitamin B12 deficiency. Although the condition increases the risk of neuroendocrine tumors and adenocarcinoma, early detection remains challenging.

Case: We report a 45-year-old woman presenting with persistent epigastric pain unresponsive to therapy and severe vitamin B12 deficiency. Endoscopic biopsies performed to investigate suspected autoimmune gastritis showed fundic mucosal atrophy with antral-pyloric and intestinal metaplasia. Unexpectedly, one fragment revealed a dense cellular proliferation consistent with a poorly cohesive (signet-ring cell) adenocarcinoma infiltrating the atrophic fundic mucosa.

Conclusion: This case underscores the value of systematic gastric biopsies in autoimmune gastritis, which can reveal early or incidental carcinoma. Vigilance is particularly warranted in patients with long-standing atrophic gastritis and severe vitamin B12 deficiency.

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Introduction

Autoimmune atrophic gastritis (AAG) is an immune-mediated destruction of oxyntic mucosa associated with intrinsic factor deficiency and malabsorption of vitamin B12. Patients typically present with dyspeptic symptoms, pernicious anemia, or incidental endoscopic findings.

AAG is a recognized risk factor for both type I gastric neuroendocrine tumors and intestinal-type adenocarcinoma. Carcinoma may arise silently in a background of chronic atrophy and metaplasia, making surveillance crucial.

We report a case in which endoscopic biopsies performed for severe B12 deficiency unexpectedly revealed a poorly cohesive carcinoma developing in atrophic fundic mucosa.

Case Presentation

A 45-year-old woman presented with persistent epigastric pain resistant to medical therapy. Laboratory tests showed a markedly decreased vitamin B12 level.

Upper endoscopy was performed to evaluate suspected autoimmune gastritis. The gastric mucosa appeared thinned and pale, mainly in the fundus and body. Multiple biopsies were taken. Histological examination revealed atrophic fundic mucosa with extensive antral-pyloric metaplasia and intestinal metaplasia, consistent with autoimmune atrophic gastritis.

Notably, one biopsy fragment showed a dense, poorly cohesive proliferation of atypical cells infiltrating the atrophic mucosa, consistent with a signet-ring cell (poorly cohesive) adenocarcinoma.

Pathological Findings Microscopy

- Fundic biopsies showed gastric glandular atrophy, loss of parietal cells, and replacement by pyloric-type glands (pseudopyloric metaplasia).
- Intestinal metaplasia with goblet cells was present.
- One fragment contained infiltrating poorly cohesive adenocarcinoma cells, arranged in single-file patterns and focal signet-ring morphology, infiltrating the lamina propria.

These findings confirmed the diagnosis of adenocarcinoma arising in autoimmune atrophic gastritis.

Discussion

Autoimmune atrophic gastritis is strongly associated with parietal cell loss, achlorhydria, hypergastrinemia, and profound vitamin B12 deficiency. Long-standing atrophy predisposes to gastric neoplasia, including neuroendocrine tumors and adenocarcinoma.

The Incidental Discovery of Carcinoma in this Case Highlights

- The silent progression of neoplastic transformation in AAG.
- The importance of systematic biopsy sampling in all zones of the stomach.
- The potential for early detection when biopsies include atrophic areas.

Figures 1 and 2 illustrate the histological background of atrophic fundic mucosa (HE×10) and the infiltrating poorly cohesive carcinoma (HEX40) [1-5].

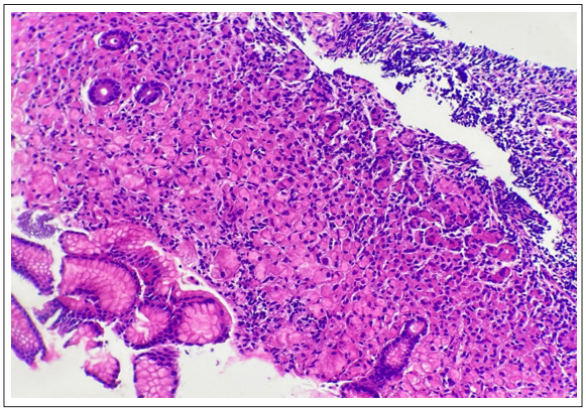

Figure 1: Low-Magnification View (HE ×10) Showing Atrophic Fundic Mucosa with Dense Cellular Proliferation

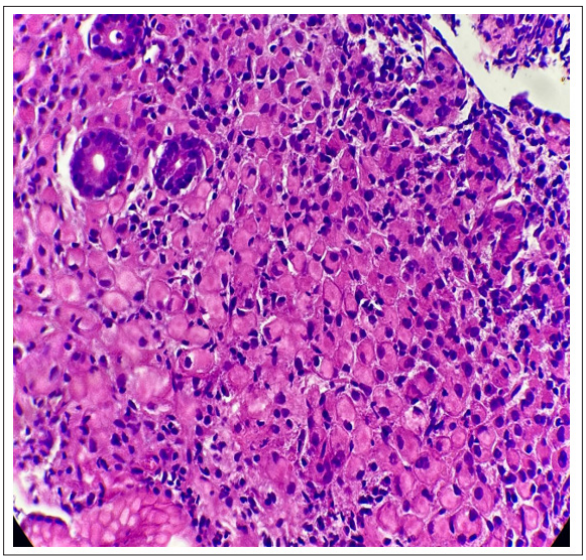

Figure 2: High-Magnification View (HE ×40) Demonstrating Poorly Cohesive Carcinoma Infiltrating the Fundic Mucosa

Conclusion

We report a case of autoimmune atrophic gastritis presenting with severe vitamin B12 deficiency and revealing an incidental signet-ring cell carcinoma.

Routine gastric biopsies remain essential in atrophic gastritis to identify early carcinoma and guide clinical management.

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