

# A Case of Pernicious Anemia Complicated by Gastric Carcinoid

## Introduction

Gastric carcinoid is a known but rare complication of severe pernicious anemia occurring in roughly 1-7% of patients (1). While these tumors are rarely malignant or produce a clinical picture of carcinoid syndrome, they should still be observed closely and treated.

## Case Description

Patient is a 71-year-old female who presented to the emergency department due to outpatient labs showing a significant anemia. Her primary complaint was a worsening feeling of generalized weakness over the last four weeks. She denied blood in her stool or urine, or any history of bleeding or clotting disorders.

## Case Description Cont.

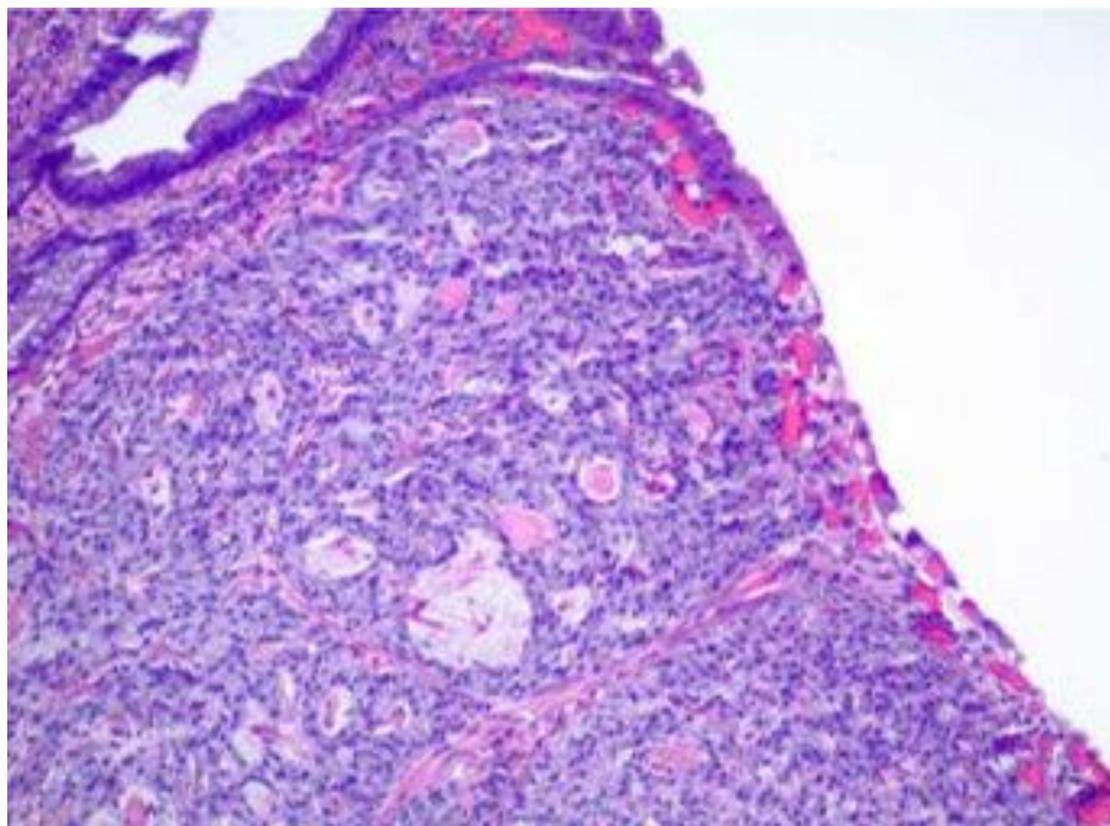
She was found to have a hemoglobin of 5.1g/dL, with a baseline of 12g/dL, and was subsequently admitted for further workup of the acute anemia. Other significant labs included an MCV of 114 FL, MCH of 40.1 PG, RDW 15.6%. Her anemia was found to be driven by a severe vitamin B12 deficiency, with B12 levels being <50pg/mL. Her Intrinsic Factor was positive, and her parietal cell antibodies were elevated. Thus, it was determined that her severe vitamin B12 deficiency was a result of Pernicious Anemia (PA). Both Hematology and Gastroenterology were consulted for evaluation of the anemia. She developed right popliteal vein DVT which was likely triggered from microangiopathic hemolysis in the setting of her severe PA. She was also found to have elevated LDH and total bilirubin levels, which were secondary to intramedullary hemolysis due to ineffective erythropoiesis.

## Discussion

It is known that due to a loss of parietal cell secretion of acid, and a resulting loss of the negative feedback loop from gastric acid on gastrin secretion results in hyperplasia of the stomach tissues. This results in an increased risk of carcinoid tumor in those with PA (2). Which this was a new diagnosis for the patient in this case, patients known to have PA should undergo routine surveillance gastroscopy.

## References

- Kadikoylu G, Yavasoglu I, Yukselen V, Ozkara E, Bolaman Z. Treatment of solitary gastric carcinoid tumor by endoscopic polypectomy in a patient with pernicious anemia. *World J Gastroenterol.* 2006 Jul 14;12(26):4267-9. doi: 10.3748/wjg.v12.i26.4267. PMID: 16830392; PMCID: PMC4087391.
- Hagarty S, Hüttner I, Shibata H, Katz S. Gastric carcinoid tumours and pernicious anemia: case report and review of the literature. *Can J Gastroenterol.* 2000 Mar;14(3):241-5. doi: 10.1155/2000/645639. PMID: 10758421.



Gastric polypectomy showing a well differentiated neuroendocrine tumor, grade 1.