Carcinoid Syndrome Diagnosed After 2 Years Of Chronic Intractable Vomiting And Diarrhea

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Introduction

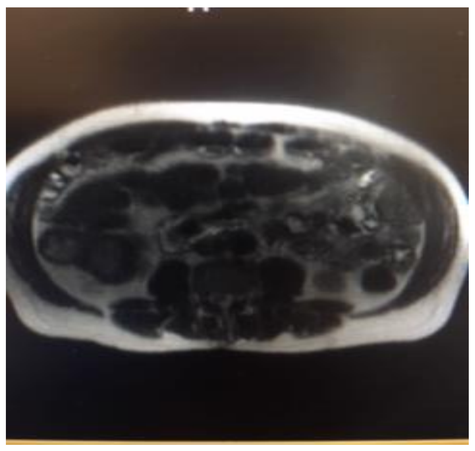
Carcinoid tumors are rare tumors arising from neuroendocrine cells. They have been reported in a wide range of organs but most commonly involve the gastrointestinal tract; particularly the distal ileum and rarely, the duodenum.[1] These carcinoids may metastasize to lymph nodes or liver and produce carcinoid syndrome leading to flushing, wheezing, diarrhea, and right sided heart disease. However, few cases report nausea and intractable vomiting associated with carcinoid syndrome.[2] We herein report a case of a male presenting with atypical symptoms of intractable vomiting and diarrhea, with evidence of carcinoid syndrome.

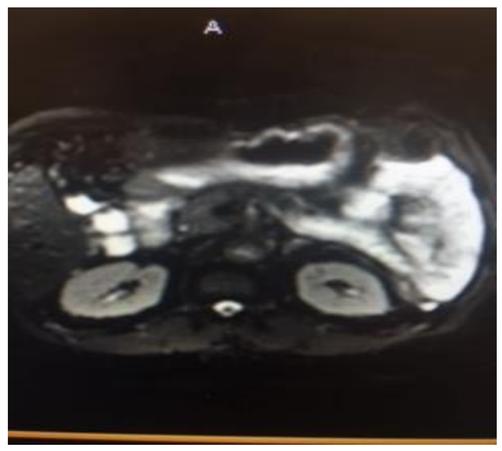
Case Presentation

A 70-year-old African-American man who has been in good health most of his life was admitted to the hospital due to profuse intermittent vomiting and diarrhea which he has been experiencing for two years. He denies the symptoms being associated with food and affirms the symptoms persist regardless of fasting. He also denies any fevers, blood or mucous in the stool, or recent antibiotic use. He has experienced a 50-pound weight loss in the last two years despite his typical appetite. He has been followed in the outpatient gastroenterology clinic due to similar symptoms with an elusive and wide differential.

Investigations

On presentation to the emergency department, he was found to be severely dehydrated with lactic acidosis of 5.5 mmol/L, hypokalemic of 2.9 mmol/L, have elevated total bilirubin at 2.3 mg/dL, as well as alkaline phosphatase of 165 Units/L. He was resuscitated with IV fluids and started on symptomatic treatment. Multiple studies during admission were negative including CA 19-9, stool PCR, ESR and CRP, HIV, hepatitis C, and ANA testing. He was positive, however, for stool occult blood and chromogranin A. He underwent esophagogastroduodenoscopy (EGD) showing duodenitis, distal esophageal ulceration and inflammation and submucosal duodenal mass and biopsy was taken. Subsequent endoscopic ultrasound (EUS) found a 1.3 cm x 1.0 cm duodenal lesion which suggested possible neuroendocrine tumor. The pathology report revealed neoplastic staining positive for chromogranin and synaptophysin, confirming neuroendocrine differentiation grade 1. A 24-hour urine 5-HIAA was elevated at 9.0 further establishing the diagnosis of carcinoid tumor.





Discussion

Serotonin and substance P can induce nausea and vomiting by binding to specific receptors (5-hydroxytryptamine3 [5HT3] and neurokinin-1 [NK-1] receptors respectively). Carcinoid tumors, which originate from enterochromaffin cells of the neuroendocrine system, secrete several biologically active amines and peptides, including serotonin and substance P, that have a role in the pathogenesis of vomiting.[2] These effects are not unique to carcinoid tumors and can be observed in a multitude of conditions. This contributes to delay in carcinoid tumor diagnosis and prolongation of initiation of treatment that was observed in our patient as well as many others.[3]

Conclusion

Over two years, our patient attended multiple outpatient visits and experienced several hospital admissions as a result of his illness. This case illustrates the greater need for awareness of the variants in presentation of carcinoid syndrome and we hope our patient can serve as an example to prevent delays in diagnosis and subsequent treatment.

References

1 Kulke. (1999). Carcinoid Tumors | NEJM. Retrieved June 15, 2020, from https://www.nejm.org/doi/full/10.1056/NEJM199903183401107

2, Kyerematen, S., & Boland, J. W. (2014). Aprepitant for the Management of Refractory Emesis in a Patient With a Small Bowel Carcinoid Tumor. *Journal of Pain & Palliative Care Pharmacotherapy, 28*(2), 135-137. doi:10.3109/15360288.2014.908995

3. Nikou, G. C., Toubanakis, C., Moulakakis, K. G., Pavlatos, S., Kosmidis, C., Mallas, E., . . . Safioleas, M. C. (2011). Carcinoid tumors of the duodenum and the ampulla of Vater: Current diagnostic and therapeutic approach in a series of 8 patients. Case series. *International Journal of Surgery, 9*(3), 248-253. doi:10.1016/j.ijsu.2010.12.003