Acute CMV: A Rare Culprit of Protein-Losing Enteropathy in an Immunocompetent Adult

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Introduction

- Protein-losing enteropathy is the excessive loss of serum proteins through the gastrointestinal tract.
- It is a complication of inflammatory disorders, mucosal permeability, and lymphatic obstructions.
- Clinical manifestations vary greatly but commonly can include diffuse edema, effusions, and gastrointestinal manifestations including diarrhea.
- Once the diagnosis of a protein-losing enteropathy is made with an elevated alpha-1 antitrypsin clearance, the underlying etiology needs to be found through extensive laboratory and procedural testing supplemented with imaging.
- Here we present a case of a previously healthy patient presenting with severe diarrhea with intractable nausea and vomiting found to have a protein-losing enteropathy due to an acute Cytomegalovirus (CMV) infection without a history of immunosuppression.

Case Summary

- A 60-year-old female with an unremarkable past medical history presented after two weeks of intractable nausea, vomiting, and watery diarrhea.
- The patient had severe anasarca and pronounced electrolyte disturbance despite significant replacement.
- Recent EGD demonstrated erosive gastritis and ulcerative duodenitis with biopsies showing ulcerative duodenitis.
- Proteins including IgG, IgA, IgM, albumin, and transferrin were low, yet she displayed no signs of malnutrition, proteinuria, or synthetic liver dysfunction.
- Protein-losing enteropathy was confirmed with elevated fecal alpha 1-antitrypsin level of 63 mg per gram of stool.
- Histopathology of the duodenal samples were negative for inflammatory bowel disease, mucosa-associated lymphatic tissue lymphoma, Whipple's disease, and Helicobacter pylori.
- CMV serology was positive concerning for a protein-losing enteropathy in the setting of an acute CMV infection.

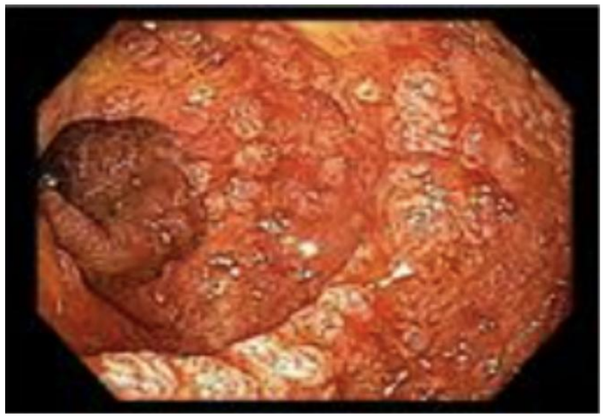

Figure 1: Erosins, white plaques, ulceration, and scalloped folds compatible with ulcerative duodenitis

Figure 2: Second part of the duodenum

Figure 3: Follow up scope one month after treatment

Discussion/Conclusion

- Protein-losing enteropathy is caused by erosive gastrointestinal diseases, non-erosive gastrointestinal diseases, and lymphatic obstructions.
- These can include inflammatory bowel disease, gastrointestinal malignancy, infectious, and autoimmune etiologies.
- Determining the etiology of a protein-losing enteropathy is a diagnosis of exclusion.
- EGD, colonoscopy, stool cultures, and autoimmune work up are often required to determine etiology and rule out other pathologies.
- Treatment includes dietary supplementation and treatment of the underlying disease.
- While treatment with antivirals is recommended in immunocompromised individuals, its role in CMV infection in immunocompetent individuals is controversial.
- A majority of immunocompetent patients with CMV disease recover without intervention, however the severity of CMV disease must be balanced against the risk of medication toxicity.
- In this case, the patient required multiple days of hospitalization with persistent electrolyte derangements, thus antiviral therapy was initiated with significant clinical improvement.
- Prompt recognition of anasarca with concurrent low serum protein levels as manifestations of a protein-losing enteropathy will hasten diagnosis, thus enhancing overall patient outcomes.

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