Cytomegalovirus in Severe Ulcerative Colitis; Primary Villain or Innocent Bystander?

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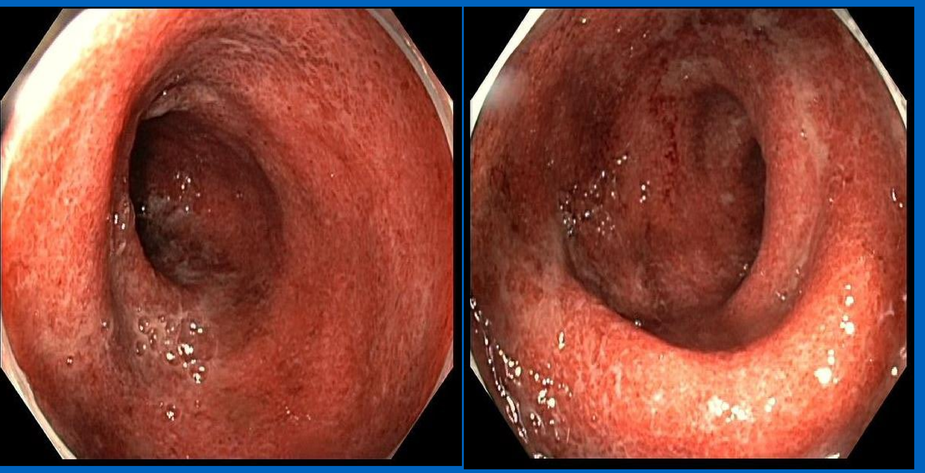
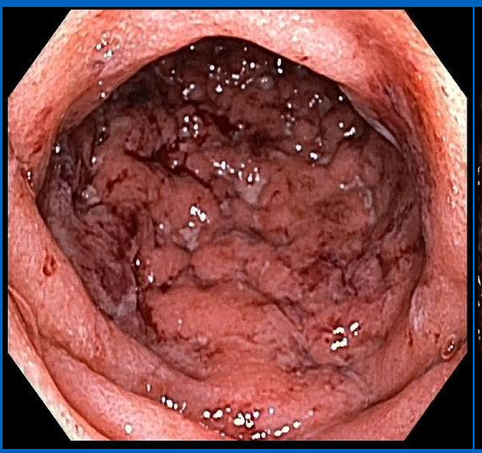


Image 1 – First Colonoscopy indicating extensive inflammation



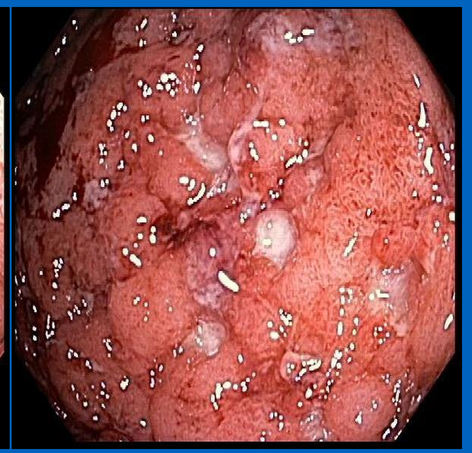


Image 2 - Follow up sigmoidoscopy 3 weeks later, after steroid and Infliximab therapy indicating extensive ulceration and inflammation. Biopsies from the sigmoid colon show CMV colitis with active ulceration

Case Presentation

- A 69-year-old male presented to outpatient GI clinic with several months of bloody diarrhea and weight loss.
- He underwent colonoscopy (Image 1) with findings of contiguous inflammation consistent with ulcerative colitis (UC) in the whole colon with Mayo endoscopic sub-score of 3. Biopsy results did not find any evidence of dysplasia or granulomata and the cytomegalovirus(CMV) immunochemistry was negative and subsequently started on sulfasalazine.
- The patient was admitted several days after the colonoscopy with acute weight loss, failure to thrive and voluminous bloody diarrhea. Clostridium difficile testing was negative, WBC 14k/mm3, CRP 9.0mg/dL, Albumin 3.7gm/dL.
- There was no improvement in the patients symptoms after 3 days of methylprednisolone 60mg daily so he was started on infliximab-dyyb with subtle clinical and CRP improvement.
- On day 4 after infusion, the patient decompensated clinically and C. diff testing was positive.
- Flexible sigmoidoscopy (Image 2) was performed after minimal improvement after 3 days of oral vancomycin.
- On Day 30 of his admission, due to lack of improvement on 3 days of IV ganciclovir, the patient underwent a total colectomy with end ileostomy and Hartman pouch.

Discussion

- Role of CMV in IBD still unclear. There is some support for CMV infection causing steroid resistant disease in UC patients[1]. However, other studies indicate CMV infection risk is increased because of steroid resistant disease.[2]
- Non-differentiation between IBD types (UC vs CD) and poor detection techniques for CMV are thought to be the cause of conflicting studies[3].
- A recent study recommends screening for CMV in steroid resistant severe UC prior to starting immunomodulators using H&E/IHC staining (poor sensitivity) followed by tissue RT-PCR and if positive with high viral loads, starting intravenous antiviral therapy[4].
- Current guidelines from the American College of Gastroenterology (ACG) recommend assessing for CMV in patients with acute severe UC and initiating antivirals such as Ganciclovir for 14 days. However, given lack of consensus, there is no recommendation to delay colectomy until completion of a full course of treatment in non-responders

Conclusion

- **There is currently significant debate about the role and management of CMV infection in UC. Treatment with anti-virals are only recommended in steroid resistant disease with high CMV viral load in GI tissue. Even in such cases, there is no recommendation to delay colectomy. Improving quality of case reports along with better CMV detection techniques are essential first steps in developing clinical guidelines for necessity of colectomies.**

References

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