



Cytomegalovirus Colitis- an Uncommon Complication of COVID-19 Infection in an Immunocompetent Man

Thomas Fincham^{1*}, Bahij Al-Hakim², Nadeem Sarwar², Theodora Jones¹ and Jamil Choudhury³

¹Department of Ageing and Complex Medicine, Salford Royal NHS Foundation Trust, UK

²Department of Gastroenterology, Salford Royal NHS Foundation Trust, UK

³Department of Pathology, Salford Royal NHS Foundation Trust, UK

Abstract

A 78 year old gentleman presented to hospital with COVID-19 pneumonitis requiring treatment with supplemental oxygen and dexamethasone. His inpatient stay was complicated with hematochezia on the background of a short history of watery diarrhea. An area of deep distal rectal ulceration was demonstrated on his colonoscopy which was later shown to be secondary to CMV infection. Although CMV co-infection with COVID-19 has been reported previously this is the first case describing a patient presenting with overt hematochezia.

Case Presentation

A 78 year old man presented to hospital in October 2020 with 24 h of worsening shortness of breath and 3 days of watery diarrhea. He had a history of hypertension and previous excision of a benign vocal cord lesion but took no regular medications. The gentleman lived in an apartment with his wife. He walked unaided and enjoyed regularly exercising at the gym. He had a Clinical Frailty Scale score of 2.

At admission he was hypoxic requiring 2 L/min of oxygen to maintain saturations $\geq 92\%$. Hematological and biochemical investigations showed raised inflammatory markers (CRP 178 mg/L WCC $13.8 \times 10^9/L$ Neutrophils $11.7 \times 10^9/L$). His CXR showed bilateral infiltrates suggestive of COVID pneumonitis. A SARS-CoV-2 Polymerase Chain Reaction (PCR) was positive. He was started on 6 mg daily of dexamethasone along with famotidine, benzylpenicillin and doxycycline. He was also started on remdesivir on day 2 of his admission.

On the 3rd day of his admission he developed significant hematochezia with associated hemodynamic instability (BP 82/60 mmHg) and a hemoglobin drop from 149 g/L to 82 g/L. CT abdominal angiogram did not reveal a bleeding point at the time but did show blood in the rectum. He was treated conservatively with a blood transfusion and tranexamic acid. He had no further bleeding during his admission.

Urgent outpatient colonoscopy and showed a well demarcated area of almost circumferential deep ulceration situated around the anal margin suspicious for a neoplasm. Biopsies showed inflamed mucosa with granulation tissue. Immunohistochemistry showed scattered enlarged nuclei identified within the granulation tissue were strongly positive for CMV immunomarker, indicating CMV colitis (Figure 1).

On review 2 weeks after his colonoscopy his symptoms had resolved without any specific CMV targeted therapy.

Discussion

Cytomegalovirus (CMV) is a member of the *Herpesviridae* family. Its seroprevalence in the population has been reported as over 70% [1]. In immunocompetent individuals only a minority will present with clinical symptoms, in these cases mononucleosis like illness can be seen [2]. Severe CMV infection or re-activation such as colitis or pneumonia is seen in immunocompromised adults.

CMV colitis can present with diarrhea and hematochezia, endoscopic appearances range from mucosal inflammation and edema to severe ulceration [2]. CMV colitis in immunocompetent hosts is rare but documented in case reports [2]. When seen there is often relative immunosuppression in

OPEN ACCESS

*Correspondence:

Thomas Fincham, Department of Ageing and Complex Medicine, Salford Royal NHS Foundation Trust, UK, Tell: +44-07860337095;

E-mail: thomas.fincham@mft.nhs.uk

Received Date: 19 Aug 2021

Accepted Date: 03 Sep 2021

Published Date: 10 Sep 2021

Citation:

Fincham T, Al-Hakim B, Sarwar N, Jones T, Choudhury J. Cytomegalovirus Colitis- an Uncommon Complication of COVID-19 Infection in an Immunocompetent Man. *Ann Clin Case Rep.* 2021; 6: 1990.

ISSN: 2474-1655

Copyright © 2021 Thomas Fincham.

This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

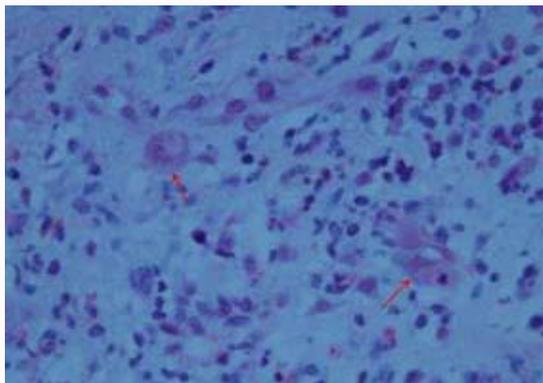


Figure 1: CMV biopsy.

some other form such as critical illness or diabetes [2].

Large systematic reviews have shown that 9% of patient with COVID-19 will experience diarrhea [3]. CMV colitis has been reported in a critically unwell patient in COVID-19 in the intensive care unit with multi-organ failure [4]. This patient developed abdominal distension in the absence of hematochezia; CMV was confirmed on colonic biopsy and responded to IV Ganciclovir. Our case is the second reported in the literature of CMV and COVID-19 co-infection; the significantly different presentation and course is noteworthy.

Moss et al. [5] described an increased mortality in CMV seropositive patient with COVID-19. Although this may be related to the effects of CMV on the immune system, CMV re-activation was raised as a possible mechanism.

Our patient's gastrointestinal symptoms predate the administration of steroids. We hypothesize that COVID-19 infection has precipitated reactivation of CMV colitis which was then further exacerbated by administration of dexamethasone resulting in the presentation with hematochezia. With increasing use of immunomodulation in COVID-19 we hope this case will alert others to this observed association and there may be a potential role for using anti-viral agents in non-resolving cases. We suggest CMV should be considered as a differential diagnosis in patients presenting with lower GI bleeding in the context of COVID-19.

References

1. Sager K, Alam S, Bond A, Chinnappan L, Probert CS. Review article: Cytomegalovirus and inflammatory bowel disease. *Aliment Pharmacol Ther.* 2015;41(8):725-33.
2. Fakhreddine AY, Frenette CT, Konijeti GG. A practical review of cytomegalovirus in gastroenterology and hepatology. *Gastroenterol Res Pract.* 2019;2019:6156581.
3. Galiatsatos P, Shrier I, Lamoureux E, Szilagyi A. Meta-analysis of outcome of cytomegalovirus colitis in immunocompetent hosts. *Dig Dis Sci.* 2005;50(4):609-16.
4. Mao R, Qiu Y, He JS, Tan JY, Li XH, Liang J, et al. Manifestations and prognosis of gastrointestinal and liver involvement in patients with COVID-19: A systematic review and meta-analysis. *Lancet Gastroenterol Hepatol.* 2020;5(7):667-78.
5. Moss P. "The ancient and the new": is there an interaction between cytomegalovirus and SARS-CoV-2 infection? *Immun Ageing.* 2020;17:14.