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# Cytomegalovirus Colitis in an Immunocompetent Patient: A Case Report

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## Citation

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## Abstract

Presence of cytomegalovirus colitis in an immunocompetent host is a rare condition. We encountered one such patient in our hospital. He was a 54-year-old male presented to us as a case of abdominal pain and bloody diarrhoea of two days duration. He was found to be slightly toxic with abdominal tenderness. He was investigated and found to have a dilated colon. Initially, the patient was put on conservative management but while in hospital he developed severe lower GI bleeding which merited exploration. So he underwent total colectomy. The histopathology from the colon showed CMV (cytomegalovirus) colitis. We recommend that CMV colitis should be considered in the differential diagnosis of diarrhoea in elderly patients.

## INTRODUCTION

Cytomegalovirus is beta herpes virus which can cause toxic manifestations in an immunocompromised host and affect many organs of the body. But it can cause severe toxicity in an immunocompetent host occasionally, as has been reported by many case reports. Similarly, we found one such case. Its seroprevalence in the USA is 60 to 100 percent. It can affect GIT (most common system), central nervous system, haematological system, eyes and lungs. In our patient, it has caused toxic megacolon.

## CASE HISTORY

We received a 54-year-old male patient with history of severe diarrhea, abdominal pain and low-grade fever of 2 days duration. In the past history only hypertension was significant.

On examination, he was looking ill and was having a tender abdomen.

The laboratory values showed a normal CBC, decreased serum potassium and albumin. His stool was sent for culture. His stool was negative for clostridium difficile toxin. His HIV and hepatitis screen was found negative. His abdominal CT showed gross dilatation of the right and transverse colon, with fat stranding around. There was no small-bowel dilatation. A sigmoidoscopy was done which showed that there were multiple confluent aphthoid lesions with hyperemia and mucosal friability. The histopathological examination of the biopsy from a lesion showed that there

was chronic inflammatory infiltrate with numerous intranuclear inclusions in endothelial cells with perinuclear halos. He was initially managed by drip and suction and i.v. antibiotics. He was put on strict monitoring.

While he was on treatment he deteriorated clinically with massive lower GI bleeding and became hemodynamically unstable.

He was taken for emergency exploratory laprotomy whereby total colectomy was done and ileostomy made. In the post-operative period he was managed in the ICU, monitored and put on gancyclovir.

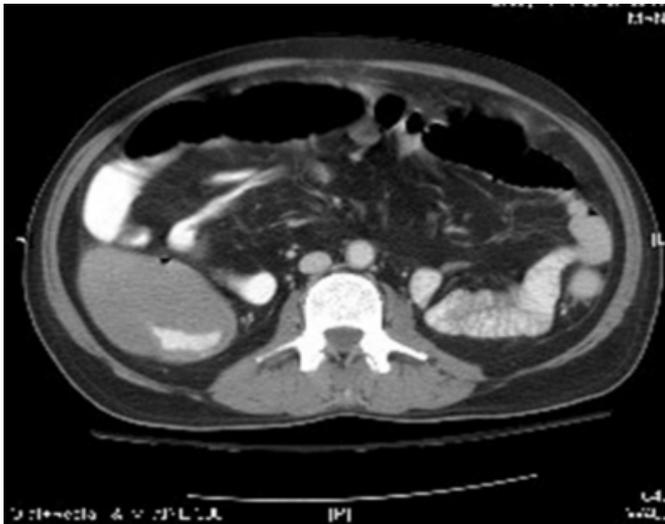
He did well and was discharged from the hospital.

**Figure 1**

Figure 1a and 1b: Distended colon on CT



**Figure 2**



**Figure 3**

Figure 2a and 2b: Abdominal x-ray and CT picture showing severe dilation of colon

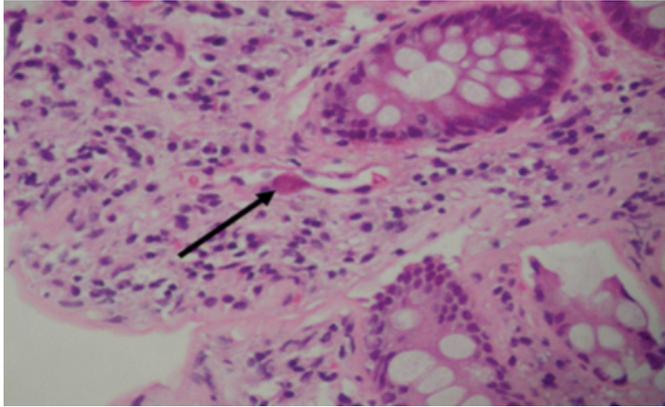


**Figure 4**



**Figure 5**

Figure 3: Histopathology of the specimen



**DISCUSSION**

A toxic megacolon is defined as non-obstructive dilated colon with systemic toxicity (1).

The criteria laid down for diagnosis are:

1. radiographic evidence of transverse colonic dilation of more than 6cm
2. three of the following items:
  - a. temperature of more than 101 degree F
  - b. heart rate of more than 120 per minute
  - c. leucocytosis more than 10500
  - d. anemia and hematocrit less than 60
4. one of the following items
  - a. dehydration
  - b. altered mentation

The various causes listed in etiology (2) are:

- inflammatory bowel disease as most common cause
- infectious colitis
- ischemic colitis
- radiation therapy
- chemotherapy

Cytomegalovirus is a beta herpes virus. Its seroprevalence in

the USA is 60 to 100 percent (3). It causes subclinical infection in the majority of immunocompetent hosts or manifestations as mononucleosis-like syndrome or hepatitis (4, 5). Occasionally, it can cause severe clinical manifestations as toxicity etc. In the gastrointestinal tract, it most commonly affects colon. It can affect CNS, haematological system, eyes and lungs as well (6, 7, 8).

Histopathologically, it is seen to cause mucosal inflammation in the colon extending to muscularis and probably myenteric plexus as well and that is how it causes colonic dialation (9). Endothelial infection of vessels of mucosa and submucosa leads to microthrombi leading to ischemic damage (10). For diagnosis (4, 11), endoscopic biopsy is the method of choice. Immunostaining can be done. Culture is not done as it takes long time.

It was shown by meta-analysis that in patients younger than 55 years, spontaneous remission rate is 31 percent (7). Death rate is around 31 percent. Co-morbidities increase the death rate. Karakozis et al. (12) believe that antiviral treatment is the treatment of choice while Petros et al. (6) believe that no definite evidence of the efficacy of antivial therapy for severe CMV disease can be drawn. Gancyclovir and Foscarnet are given. Colonoscopic resolution is seen in 2 weeks. Careful follow-up is required as one forth of immunocompetent patients develop serious complications which need surgery.

**CONCLUSION**

In conclusion, CMV colitis should be considered in differential diagnosis in elderly patients with severe diarrhea.

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