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LETTER TO THE EDITOR

Sepsis is a more important risk factor for cytomegalovirus colitis in human-immunodeficiency virus-negative adults with chronic kidney disease



We read with great interest the article by Chen et al¹ in the *Journal of Microbiology, Immunology and Infection*. The authors reported that cytomegalovirus (CMV) disease may occur in chronic kidney disease patients without overt immunodeficiency, and that the gastrointestinal tract, especially the colon, has been recognized as the most common site. They also mentioned that chronic kidney disease is a CMV-prone condition, especially in patients with end-stage renal disease. A cumulative of risk factors have a greater risk of CMV reactivation, and sepsis has an extra strong additive value for risk factor.²

In Chen et al's¹ study, 92.9% of CMV disease is present in the gastrointestinal tract, and nine patients had colitis. In our study,² a retrospective review of 15 patients with a histopathological diagnosis of CMV colitis showed that the most common presentation is bloody stool, followed by persistent diarrhea. Six patients had end-stage renal disease. Nearly all patients had a condition of sepsis and were treated with extended (>10 days) broad-spectrum antibiotics. Serum anti-CMV immunoglobulin M shows a weak predictive value, and routine serum test surveillance might not advance an earlier treatment on CMV disease. In colonoscopic view in our patient series, most CMV colitis is presented as multiple large (>2 cm) geographic shallow ulcer with profound subepithelial ecchymosis at the distal colon, and polypoid lesion formation with necrotic tissue found in patients with advanced disease. All of our patients received ganciclovir, and four of them died.³

Chen et al¹ concluded that CMV disease may occur in chronic kidney disease patients in the absence of overt immunodeficiency. But most CMV diseases were related to CMV reactivation, which is poorly understood in relation to a chronic kidney disease. Arising evidence indicates that sepsis is a risk factor for CMV reactivation.² Listed risk

factors for CMV disease in an article by Ko et al⁴ include neurologic disease, rheumatologic disease, required intensive care, red blood cell transfusion, and exposure to antibiotics, antacids, and steroids. In our study,³ we suggested that an addition of sepsis to CMV-prone conditions is more likely to be a major contributor in CMV colitis. We also suggest that other conditions that associated with sepsis could be presented as bloody stool or persistent diarrhea. The reasons are that the patient with sepsis with the use of a broad spectrum antibiotic has an increased risk of pseudomembranous colitis,⁵ and that a patient with septic shock may have the possibility of ischemic colitis. Both conditions are indistinguishable from CMV colitis clinically, hence an early endoscopic and histopathological studies are mandatory.

In summary, a patient with chronic kidney disease who is concomitant with sepsis has a higher risk of CMV reactivation. Therefore, clinicians should also be aware of the risk in patients with lower gastrointestinal symptoms.

Conflicts of interest

All contributing authors declare no conflicts of interest.

References

1. Chen YM, Hung YP, Huang CF, Lee NY, Chen CY, Sung MJ, et al. Cytomegalovirus disease in nonimmunocompromised, human immunodeficiency virus-negative adults with chronic kidney disease. *J Microbiol Immunol Infect* 2014;47:345–9.
2. Heining A, Haeberle H, Fischer I, Beck R, Riessen R, Rohde F, et al. Cytomegalovirus reactivation and associated outcome of critically ill patients with severe sepsis. *Crit Care* 2011;15:R77.

3. Toh DE, Chen CN, Chan TS, Lien GS, Suk FM. Endoscopic and clinical features of cytomegalovirus colitis in critically ill patients: a retrospective review. *J Exp Clin Med* 2014;6: 209–12.
4. Ko JH, Peck KR, Lee WJ, Lee JY, Cho SY, Ha YE, et al. Clinical presentation and risk factors for cytomegalovirus colitis in immunocompetent adult patients. *Clin Infect Dis* 2015. <http://dx.doi.org/10.1093/cid/ciu969>. In press.
5. Chan KS, Yang CC, Chen CM, Yang HH, Lee CC, Chuang YC, et al. Cytomegalovirus colitis in intensive care unit patients: difficulties in clinical diagnosis. *J Crit Care* 2014;29:474. e1–6.

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