

Supplementary Table 2. Quality Assessment of Each Study Using QUADAS-2

First author	Risk of bias				Applicability concerns		
	Patient selection	Index test	Reference standard	Flow and timing	Patient selection	Index test	Reference standard
Alacam ¹	☺	☹	☺	☹	☹	?	?
Ambelil ²	?	?	?	☹	?	?	☺
Bhutani ³	?	?	?	?	?	☺	?
Boo ⁴	?	?	☺	?	?	☺	☺
Ciccocioppo ⁵	?	?	?	☺	?	☺	☺
Cohen ⁶	?	?	?	?	☹	☺	☺
Dimitroulia ⁷	?	?	☹	?	?	☺	☺
Domenech ⁸	☺	☺	☺	?	☺	☺	☺
Fukuchi ⁹	☺	?	☺	?	☺	☺	☺
Genzenmueller ¹⁰	☹	☹	?	?	☹	?	?
Hazir-Konya ¹¹	☺	?	☺	?	☹	☺	☺
Herfarth ¹²	☺	?	☺	☺	☺	☺	☺
Inokuchi ¹³	?	?	☺	☺	☺	☺	☺
Kim ¹⁴	?	?	☺	?	☺	☺	☺
Mavropoulou ¹⁵	?	☺	☺	?	☹	☺	☺
Okahara ¹⁶	?	?	?	?	☺	☺	☺
Prachasitthisak ¹⁷	☹	?	☺	☺	☹	?	☺
Roblin ¹⁸	?	☺	☺	☺	☹	☺	?
Sattayalertyanyong ¹⁹	☹	☺	☺	?	☹	☺	☺
Serra-Ruiz ²⁰	?	?	☺	☺	☺	☺	☺
Sun ²¹	☹	☹	☺	☹	☹	?	☺
Thorn ²²	?	?	?	?	☹	☺	☺
Tun ²³	?	?	?	?	?	☺	?
Wang ²⁴	☹	☺	?	?	☺	?	☺
Yang ²⁵	☺	☺	☺	☺	☹	?	☹
Yoshino ²⁶	?	?	?	?	?	☺	☺
Yoshino ²⁷	☺	☺	☺	☺	☺	☺	☺
Zagorowicz ²⁸	?	?	?	?	☹	☺	☺
Zagorowicz ²⁹	☹	?	☺	☺	☺	☺	☹
Zavrelova ³⁰	☹	?	☺	?	?	☺	☺

☺=low risk, ?=unclear, ☹=high risk.

REFERENCES

- Alacam S, Karabulut N, Bakir A, et al. Diagnostic significance of cytomegalovirus DNA quantitation in gastrointestinal biopsies: comparison with histopathological data and blood cytomegalovirus DNA. *Eur J Gastroenterol Hepatol* 2021;33:40-45.
- Ambelil M, Saulino DM, Ertan A, DuPont AW, Younes M. The significance of so-called equivocal immunohistochemical staining for cytomegalovirus in colorectal biopsies. *Arch Pathol Lab Med* 2019;143:985-989.
- Bhutani D, Dyson G, Manasa R, et al. Incidence, risk factors, and outcome of cytomegalovirus viremia and gastroenteritis in patients with gastrointestinal graft-versus-host disease. *Biol Blood Marrow Transplant* 2015;21:159-164.
- Boo SJ, Ye BD, Yang DH, et al. The clinical utility of CMV antigenemia and blood CMV DNA PCR in the diagnosis of CMV

- colitis in patients with moderate to severe ulcerative colitis. *Journal of Gastroenterology and Hepatology* 2011;26:5-6.
5. Ciccocioppo R, Racca F, Paolucci S, et al. Human cytomegalovirus and Epstein-Barr virus infection in inflammatory bowel disease: need for mucosal viral load measurement. *World J Gastroenterol* 2015;21:1915-1926.
 6. Cohen NA, Zafer M, Setia N, et al. Serum cytomegalovirus polymerase chain reaction test is a valuable negative predictor of infection in acute severe ulcerative colitis. *Dig Dis Sci* 2023;68: 897-901.
 7. Dimitroulia E, Spanakis N, Konstantinidou AE, Legakis NJ, Tsakris A. Frequent detection of cytomegalovirus in the intestine of patients with inflammatory bowel disease. *Inflamm Bowel Dis* 2006;12:879-884.
 8. Domènech E, Vega R, Ojanguren I, et al. Cytomegalovirus infection in ulcerative colitis: a prospective, comparative study on prevalence and diagnostic strategy. *Inflamm Bowel Dis* 2008; 14:1373-1379.
 9. Fukuchi T, Nakase H, Matsuura M, et al. Effect of intensive granulocyte and monocyte adsorptive apheresis in patients with ulcerative colitis positive for cytomegalovirus. *J Crohns Colitis* 2013;7:803-811.
 10. Ganzenmueller T, Kluba J, Becker JU, Schmitt C, Heim A. Cross-sectional study on the performance of quantitative cytomegalovirus (CMV) PCR in stool as a non-invasive diagnostic tool for CMV intestinal disease in comparison to the quantification of CMV-DNA levels in gut biopsies. *Clinical Microbiology and Infection* 2012;18:199.
 11. Hazır-Konya H, Avkan-Oğuz V, Akpınar H, Sağol Ö, Sayiner A. Investigation of cytomegalovirus in intestinal tissue in a country with high CMV seroprevalence. *Turk J Gastroenterol* 2021; 32:123-132.
 12. Herfarth HH, Long MD, Rubinas TC, Sandridge M, Miller MB. Evaluation of a non-invasive method to detect cytomegalovirus (CMV)-DNA in stool samples of patients with inflammatory bowel disease (IBD): a pilot study. *Dig Dis Sci* 2010;55: 1053-1058.
 13. Inokuchi T, Kato J, Hiraoka S, et al. Long-term follow-up of ulcerative colitis patients treated on the basis of their cytomegalovirus antigen status. *World J Gastroenterol* 2014;20:509-517.
 14. Kim JW, Boo SJ, Ye BD, et al. Clinical utility of cytomegalovirus antigenemia assay and blood cytomegalovirus DNA PCR for cytomegaloviral colitis patients with moderate to severe ulcerative colitis. *J Crohns Colitis* 2014;8:693-701.
 15. Mavropoulou E, Ternes K, Mechie NC, et al. Cytomegalovirus colitis in inflammatory bowel disease and after haematopoietic stem cell transplantation: diagnostic accuracy, predictors, risk factors and disease outcome. *BMJ Open Gastroenterol* 2019;6:e000258.
 16. Okahara K, Nagata N, Shimada T, et al. Colonic cytomegalovirus detection by mucosal PCR and antiviral therapy in ulcerative colitis. *PLoS One* 2017;12:e0183951.
 17. Prachasitthisak N, Tanpowpong P, Lertudomphonwanit C, et al. Short article: stool cytomegalovirus polymerase chain reaction for the diagnosis of cytomegalovirus-related gastrointestinal disease. *Eur J Gastroenterol Hepatol* 2017;29:1059-1063.
 18. Roblin X, Pillet S, Oussalah A, et al. Cytomegalovirus load in inflamed intestinal tissue is predictive of resistance to immunosuppressive therapy in ulcerative colitis. *Am J Gastroenterol* 2011;106:2001-2008.
 19. Sattayalertyanyong O, Limsrivilai J, Phaophu P, et al. Performance of cytomegalovirus real-time polymerase chain reaction assays of fecal and plasma specimens for diagnosing cytomegalovirus colitis. *Clin Transl Gastroenterol* 2023;14:e00574.
 20. Serra-Ruiz X, Herrera-de Guise C, Esperalba J, et al. P202 Accuracy of blood-PCR for diagnosing CMV colitis in patients with Inflammatory bowel disease. *J Crohns Colitis* 2023;17 (Suppl_1):i354-i356.
 21. Sun YQ, Xu LP, Han TT, et al. Detection of human cytomegalovirus (CMV) DNA in feces has limited value in predicting CMV enteritis in patients with intestinal graft-versus-host disease after allogeneic stem cell transplantation. *Transpl Infect Dis* 2015;17:655-661.
 22. Thörn M, Rorsman F, Rönnblom A, et al. Active cytomegalovirus infection diagnosed by real-time PCR in patients with inflammatory bowel disease: a prospective, controlled observational study. *Scand J Gastroenterol* 2016;51:1075-1080.
 23. Tun GS, Raza M, Hale MF, Lobo AJ. Polymerase chain reaction for detection of mucosal cytomegalovirus infection in patients with acute ulcerative colitis. *Ann Gastroenterol* 2019;32:81-87.
 24. Wang K, Tracht J, Manne U, Eltoum IE, Guo R. Is immunohistochemistry over-utilized in detection of CMV in cases suspected of CMV colitis? A retrospective correlational study. *Mod Pathol* 2019;32(Suppl 2):60-61.
 25. Yang H, Zhou W, Lv H, et al. The association between CMV viremia or endoscopic features and histopathological characteristics of CMV colitis in patients with underlying ulcerative colitis. *Inflamm Bowel Dis* 2017;23:814-821.
 26. Yoshino T, Nakase H, Ueno S, et al. Usefulness of quantitative real-time PCR assay for early detection of cytomegalovirus infection in patients with ulcerative colitis refractory to immu-

- nosuppressive therapies. *Inflamm Bowel Dis* 2007;13:1516-1521.
27. Yoshino T, Nakase H, Matsuura M, et al. Effect and safety of granulocyte-monocyte adsorption apheresis for patients with ulcerative colitis positive for cytomegalovirus in comparison with immunosuppressants. *Digestion* 2011;84:3-9.
28. Zagórowicz E, Bugajski M, Wieszczy P, Pietrzak A, Magdziak A, Mróz A. Cytomegalovirus infection in ulcerative colitis is related to severe inflammation and a high count of cytomegalovirus-positive cells in biopsy is a risk factor for colectomy. *J Crohns Colitis* 2016;10:1205-1211.
29. Zagórowicz E, Przybysz A, Szlak J, Magdziak A, Wieszczy P, Mróz A. Detection of cytomegalovirus by immunohistochemistry of colonic biopsies and quantitative blood polymerase chain reaction: evaluation of agreement in ulcerative colitis. *Scand J Gastroenterol* 2018;53:435-441.
30. Zavelova A, Radocha J, Pliskova L, et al. Detection of cytomegalovirus DNA in fecal samples in the diagnosis of enterocolitis after allogeneic stem cell transplantation. *Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub* 2018;162:227-231.