

The bowels of infection

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Current research suggests that latent cytomegalovirus (CMV) infection may exacerbate inflammatory bowel disease (IBD). The related report by Onyeagocha et al, "Latent cytomegalovirus infection exacerbates experimental colitis," appears in the November 2009 issue of *The American Journal of Pathology*.

CMV infects between 50% and 80% of adults in the United States. Most people who are infected have no symptoms, and the virus remains hidden but inactive in the body for the rest of the person's life unless activated by suppression of the immune system.

IBD, which affects between 1 and 1.4 million people in the United States, causes pain, vomiting, and diarrhea in affected individuals as well as leads to an increased risk for colorectal cancer. Acute CMV infection exacerbates IBD; however, the effects of latent CMV infection on the development and/or severity of IBD have not been studied.

Researchers led by Dr. Andrew Gewirtz at Emory University in Atlanta, GA therefore examined IBD development in mice with latent CMV infection. They found that while latent CMV infection did not induce IBD, it exacerbated the severity of intestinal inflammation if colitis were already present. In addition, CMV infection resulted in increased levels of intestinal [white blood cells](#) and heightened immune responses to normally harmless bacteria found in the intestine; which are associated with IBD severity. Therefore, modulation of mucosal immunity by latent CMV infection may contribute to the [pathogenesis](#) of IBD.

Onyeagocha et al suggest that "latent infection by CMV, and perhaps other common viruses, may modulate mucosal immunity and, consequently, alter one's susceptibility to developing severe acute colitis in response to various challenges and, consequently, may predispose to developing IBD." In future studies, Dr. Gewirtz and colleagues plan to use "retrospective serologic analysis [to] confirm the notion that latent CMV infection increases risk of developing IBD. [Although vaccines to CMV are not yet available, these results suggest that] it may be advisable to consider vaccinating healthy young populations against this virus even in the absence of any risk factors that such individuals are ever likely to be in an immunocompromised state."

More information: Onyeagocha C, Hossain MS, Kumar A, Jones RM, Roback J, Gewirtz AT: Latent Cytomegalovirus Infection Exacerbates Experimental Colitis. *Am J Pathol* 2009 175: 2028-2036

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