Metabolic and cellular effects of human cytomegalovirus infection.

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Abstract

Human cytomegalovirus (CMV) infection is known to cause dysfunction of specific organs and tissues. However, the metabolic effects of CMV infection are largely unexplored. This study aimed to investigate the metabolic and cellular effects of CMV infection in vitro. We infected human foreskin fibroblasts (HFF) with CMV and examined the metabolic and cellular changes using high-resolution mass spectrometry (HRMS). The results showed that CMV infection induced significant changes in the metabolic profile of HFF, including increases in the levels of certain amino acids and lipids. These changes were accompanied by alterations in the expression of genes involved in metabolic pathways. The findings suggest that CMV infection can have significant metabolic effects on host cells, which may contribute to the pathogenesis of CMV-related diseases. Further studies are needed to understand the mechanisms underlying these metabolic changes and to develop effective strategies for their prevention and treatment.