were supplemented with 0.1 g/kg per day and infected with a sublethal supplementation on the immune response to influenza infection, mice weight. To further evaluate the effects of low dose influenza A virus (H1N1, PR8). Supplemented mice demonstrated a at daily doses of 0.05, 0.1, 0.5, and 1 g/kg and infected intranasally with would influence the immune respon...compounds modulate immunity and increase survival in response...in vivo studies evaluating the effects of AHCC supplementation on survival and the immune response to a variety of infectious agents, including influenza virus, avian influenza virus, Klebsiella pneumoniae, Candida albicans, Pseudomonas aeruginosa, and methicillin-resistant Staphylococcus aureus. Supplementation with AHCC appears to modulate immunity and increase survival in response to acute infection and warrants further investigation.

Ritz BW, Nogusa S, Ackerman EA, Gardner EM, Supplementation with active hexose correlated compound increases the innate immune response of young mice to primary influenza infection, J Nutr. 2006 Nov;136(11):2868-73. Abstract The emergence of H5N1 avian influenza and the threat of new or adapted viruses in bioterrorism have created an urgent interest in identifying agents to enhance the immune response to primary virus infection. Active hexose correlated compound (AHCC) is a natural mushroom extract reported to increase natural killer (NK) cell activity, survival, and bacterial clearance in young mice. However, the effects of AHCC on the response to viral infections have not been studied. In this study, young C57BL/6 mice were supplemented with 1 g AHCC/(kg body weight x d) for 1 wk prior to and throughout infection with influenza A (H1N1, PR8). Supplementation increased survival, decreased the severity of infection, and shortened recovery time following intranasal infection with flu, as determined by the recovery of body weight and epithelial integrity in the lungs. AHCC increased NK activity in lungs at d 1 (P < 0.05) and d 4 (P < 0.01) and in the spleen at d 2 postinfection (P < 0.01). Supplementation increased the percentage (P < 0.05) and number (P < 0.01) of NK1.1+ cells in the lung and reduced the infiltration of lymphocytes and macrophages compared with controls (P < 0.01). These data suggest that AHCC supplementation boosts NK activity, improves survival, and reduces the severity of influenza infection in young mice. Bolstering innate immunity with dietary bioactives may be one avenue for improving the immune response to primary flu infection.

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