Herpes virus: To vaccinate or not to vaccinate

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This is Dr. Marcia Blackman of the Trudeau Institute. Credit: The Trudeau Institute

Dr. Marcia Blackman and her research team at the Trudeau Institute have followed up on an intriguing report published in the journal *Nature* in May 2007 by Dr. Herbert Virgin, et al., showing that mice persistently infected with certain forms of herpesvirus, which can establish lifelong latent infections, are resistant to infection with bacterial pathogens.

Although herpesvirus infections are generally considered undesirable and can be associated with declining immune function in the elderly or the development of a variety of tumors later in life, the Virgin report raised the unexpected possibility that they may also be beneficial.

Dr. Blackman's research has now confirmed Dr. Virgin's findings, but with some further refinements about herpes' roles in preventing other infections: "We discovered that the effect of herpesvirus infection is transient, lasting only a few months. Interestingly, although the effect was shown by the Virgin group to be dependent on establishing a latent infection, it wanes despite lifelong latency."

Recognizing that her data had implications for the interpretation of Dr. Virgin's data, Dr. Blackman shared her findings with the Virgin group prior to publication. This led to an interesting exchange between the two labs in the form of letters to the editor regarding the potential benefits of a transient protective effect. The letters will be published concurrently with Blackman's data in the February issue of *Viral Immunology* (Vol. 22, No.1). The scientists agree that even short-acting protection, especially during childhood, might have long-lasting implications in terms of survival rates.

A major point of discussion between the two groups concerned the implications of such research for the development of vaccines against herpesvirus infections. Dr. Virgin suggested that "decreased infection may be associated with unintended negative consequences for vaccinated individuals." In response, Dr. Blackman argues that possible transient protective effects did not outweigh the already recognized pathological consequences of herpesvirus infection. Both groups agreed that the protective effects of herpesvirus infections merit further study.

Importantly, both groups hope their observations will stimulate epidemiological and clinical studies to determine whether herpesvirus infections really protect humans against bacterial diseases.

Source: Trudeau Institute