Medroxyprogesterone acetate linked to immune suppression

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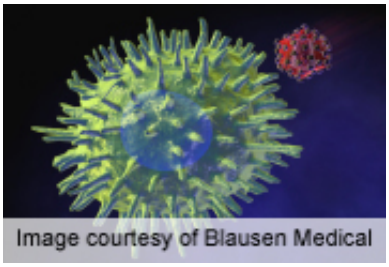

Use of the injectable contraceptive depot medroxyprogesterone acetate, common in areas such as sub-Saharan Africa with high HIV-1 prevalence, is associated with suppression of the immune response, according to a study published online Jan. 25 in *Endocrinology*.

(HealthDay)—Use of the injectable contraceptive depot medroxyprogesterone acetate (MPA), common in areas such as sub-Saharan Africa with high HIV-1 prevalence, is associated with suppression of the immune response, according to a study published online Jan. 25 in *Endocrinology*.

Noting that observational studies indicate a correlation between hormonal contraceptives and acquisition and transmission of HIV-1, Richard P.H. Huijbregts, from the University of Alabama at Birmingham, and colleagues examined the effect of MPA and other hormones on innate and adaptive immune mechanisms.

The researchers found that, in peripheral blood cells and activated T cells, MPA inhibited many cytokines and chemokines, including interferon (IFN)-γ and tumor necrosis factor (TNF)-α. Plasmacytoid dendritic cells produced less IFN-γ and TNF-α in response to ligands to several Toll-like receptors after MPA treatment. Use of depot MPA was associated with lower levels of IFN-γ in plasma and genital secretions. Lastly, the investigators found that MPA treatment blocked the down-regulation of the HIV-1 coreceptors CXCR4 and CCR5 after T cell activation and increased replication of HIV-1 in activated peripheral blood mononuclear cells.

"The presented results suggest that MPA suppresses both innate and adaptive arms of the immune system resulting in a reduction of host resistance to invading pathogens," Huijbregts and colleagues conclude.

More information: Abstract
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