Birth control injection could increase HIV risk by 40%

Women using the intramuscular injectable contraceptive depot medroxyprogesterone acetate, or DMPA may have a 40% increased risk for HIV infection, according to research published recently in *Endocrine Reviews*. It also indicates alternative contraception methods may help protect women.

Photo: ReproNet-Africa

“To protect individual and public health, it is important to ensure women in areas with high rates of HIV infection have access to affordable and safe contraceptive options, says Professor Janet P Hapgood, lead author of the review from the University of Cape Town’s (UCT) Department of Molecular and Cell Biology.

In the review, researchers say that the injectable progestin contraceptive, DMPA, is the major form of hormonal contraceptive used in sub-Saharan Africa, which also has the highest worldwide HIV prevalence, particularly in young women. However, DMPA may raise the risk for HIV infection by 40% in women.

Multiple reasons

“The increased rate of HIV infection among women using DMPA contraceptive shots is likely due to multiple reasons, including decreases in immune function, and the protective barrier function of the female genital tract. Studying the biology of medroxyprogesterone acetate (MPA) helps us understand what may be driving the increased rate of HIV infection seen in human research,” says Hapgood.

Increasing the availability of contraceptives that use a different form of progestin than the one found in DMPA could help reduce the risk of HIV transmission.

Other forms of contraception, including combined oral contraceptives containing levonorgestrel or the injectable contraceptive norethisterone enanthate (NET-EN), were not associated with increased HIV infection risk.

Individuals progestins used in hormonal contraceptives have different biological effects via specific steroid receptors, and that estrogen may exert a protective, antiviral effect. In a review of animal, cell and biochemical research on the form of progestin used in DMPA, researchers found evidence that “supports a role for MPA in increasing the permeability of the female genital tract and promoting HIV”.

The analysis reveals that MPA suppresses plasmacytoid dendritic cell and T-cell function, as well as select regulators of cellular and humoral systemic immunity. Additionally, “strong clinical and experimental animal data” supports a role for MPA in increasing the frequency of HIV viral targets in the female genital tract, as well as evidence for MPA use increasing the levels of the C-C chemokine receptor type 5 co-receptor for HIV entry.

The relative contribution of different mechanisms for MPA is unknown, and further investigation is needed.

Source: UCT

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