Common birth control shot linked to risk of HIV infection

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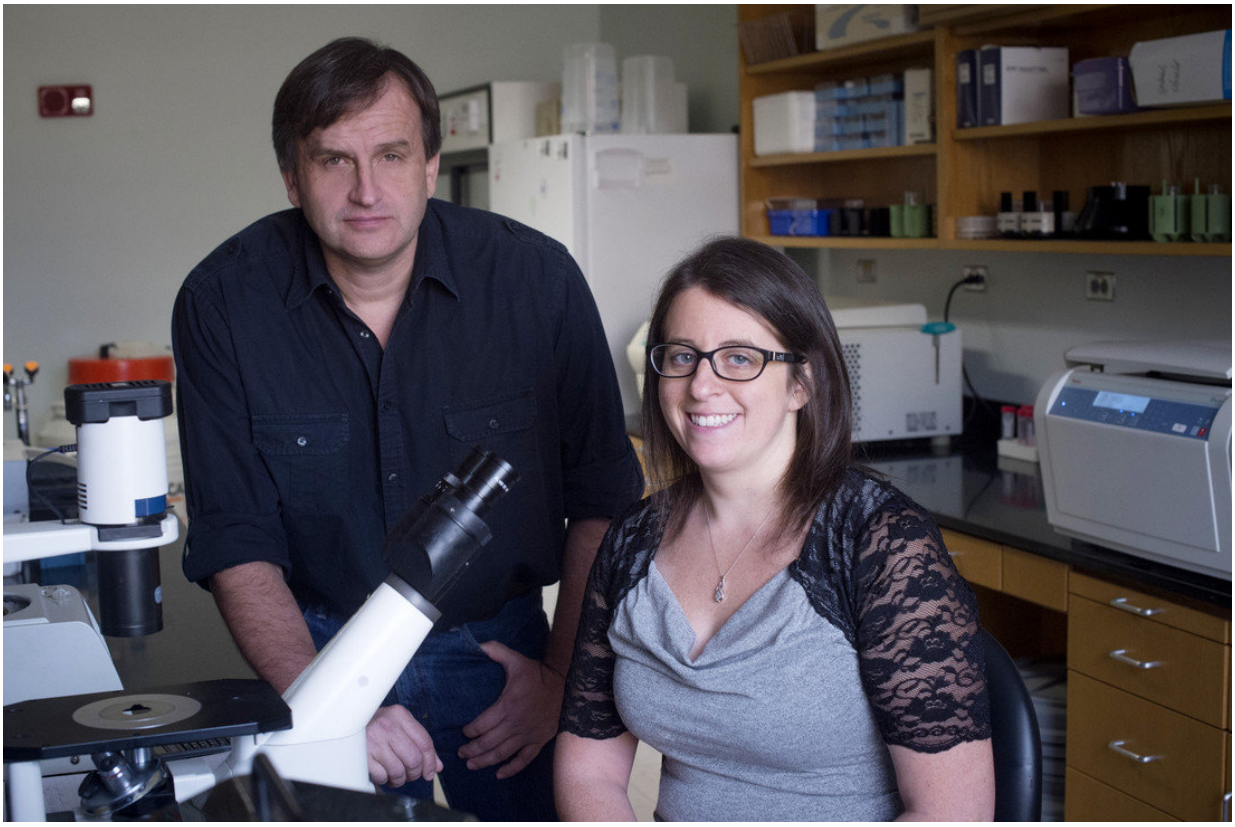

Zdenek Hel. Credit: UAB

Transitioning away from a popular contraceptive shot known as DMPA could help protect women in Sub-Saharan Africa and other high-risk regions from becoming infected with HIV, according to a research

review published in the Endocrine Society's journal *Endocrine Reviews*.

The predominant contraceptive in Sub-Saharan Africa is depot-medroxyprogesterone acetate (DMPA)—a birth control shot administered every three months. Human studies suggest DMPA use may raise the risk of HIV infection by 40 percent. Other forms of contraceptive shots do not show the same correlation with HIV infection. In this article, the authors review the underlying biological mechanisms that could contribute to increased risk of HIV infection for certain hormonal contraceptives but not others.

According to UNAIDS, 36.7 million people worldwide were living with HIV as of 2016. AIDS is the most advanced stage of HIV infection.

"To protect individual and public health, it is important to ensure women in areas with high rates of HIV infection have access to affordable contraceptive options," said the review's first author, Prof. Janet P. Hapgood, Ph.D., of the University of Cape Town in Cape Town, South Africa. "Increasing availability of contraceptives that use a different form of the female hormone progestin than the one found in DMPA could help reduce the risk of HIV transmission."

In addition to these clinical studies, the review's authors examined animal, cell and biochemical research on the form of progestin used in DMPA—medroxprogesterone acetate, or MPA. The analysis revealed MPA acts differently than other forms of progestin used in contraceptives. MPA behaves like the stress hormone cortisol in the cells of the genital tract that can come in contact with HIV.

"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," Hapgood said. "Studying the biology of MPA helps us

understand what may be driving the increased rate of HIV infection seen in human research. These findings suggest other forms of birth control should rapidly replace DMPA shots."

More information: Hormonal Contraception and HIV-1 Acquisition: Biological Mechanisms, *Endocrine Reviews*, academic.oup.com/edrv/advance- … r.2017-00103/4788769

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