CDC HIV/AIDS/Viral Hepatitis/STD/TB Prevention News Update

AUSTRALIA: Study Finds Protein Link to Sexually Transmitted Disease Susceptibility

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Researchers in Australias Centre for Innate Immunity and Infectious Diseases at the Monash Institute of Medical Research have identified a new protein, interferon epsilon (IFNe), that exists only in the female reproductive tract. According to team leader Professor Paul Herzog, IFNea naturally produced moleculeboosts womens immune response and plays a key role in protecting them from STDs like chlamydia. Other proteins that boost immune response are produced only in response to infection with a virus or bacteria. In contrast, female hormones regulate the production of IFNe. Herzog explained that IFNe levels fluctuate with hormone levels during the ovulation cyclewhen IFNe levels are lowest, women are more susceptible to STD infection. When a woman becomes pregnant or enters menopause, her hormones shut down the production of IFNe. Since IFNe follows different rules from other proteins, Herzog believes understanding how IFNe works may be helpful in addressing HIV and human papillomavirus and in developing vaccines that stimulate immune response. It may also be possible to apply IFNe research to endometriosis, pelvic inflammatory disease, and other reproductive system diseases. The incidence of chlamydia among Australians has tripled in the last 10 years, and rates are highest among people ages 15 to 19, according to 2011 Australian Bureau of Statistics. Data indicate there are more chlamydia-infected women over age 15 (46,636) than men (33,197) over age 15. The full article, Interferon-e Protects the Female Reproductive Tract from Viral and Bacterial Infection, was published online in the journal Science (2013; doi: 10.1126/science.1233321).

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