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Anti-herpes drug may help control HIV: NIH

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Singapore: Valacyclovir, a drug indicated to control the virus that causes genital herpes, appears to reduce the levels of HIV in patients who do not have genital herpes, according to a study by researchers from the National Institutes of Health, Case Western Reserve University, Cleveland, Emory University, Atlanta and Lima, Peru.

The study of 18 patients is the first to show that the drug does not require the presence of herpes simplex virus 2 (HSV-2) to suppress HIV in patients. The researchers hope to confirm their results in a larger study.

"These findings are very encouraging," said Dr Leonid Margolis, head, Section on Intercellular Interactions at the NIH's Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD). "If valacyclovir's effectiveness against HIV can be confirmed in a larger cohort, it could be added to the mix of drugs used to suppress the virus, and might prove especially helpful in cases in which HIV has developed resistance to other drugs."

These results follow a 2008 study which showed that acyclovir suppresses HIV in laboratory cultures of human tissues that were infected with various kinds of herpes viruses. Valacyclovir is referred to as a prodrug for acyclovir because it's structurally similar to acyclovir, and is converted to acyclovir in the body. For the current study, the researchers used valacyclovir because it remains in the blood longer than acyclovir and so would not need to be taken as often.

Earlier studies have shown thatacyclovir reduces HIV levels in patients coinfected with HIV and HSV-2, the virus that causes genital herpes. However, this effect has been attributed to the drug's anti-HSV-2 activity. The decrease in immune activity results in fewer active immune cells for HIV to infect.

In contrast, the laboratory results of the research team indicated that the drug likely reduced HIV levels by interfering directly with HIV's reproductive machinery and did not require the presence of HSV-2. HSV-2 chemically alters vacyclovir, by attaching chemical groups known as phosphates to it. It is this altered form of the drug that suppresses HSV-2. The

researchers believe this form also interferes with HIV's ability to reproduce. In their earlier study, the researchers found that many other kinds of herpes viruses can also attach phosphate groups to acyclovir. Dr Margolis noted that these other herpes viruses are widespread and that most people harbor at least one of them.

"We wanted to find out whether such a mechanism could operate in the cells of patients with HIV," Dr Margolis said.

The researchers enrolled 18 HIV-infected patients in their study, none of whom were infected with HSV-2, and treated them with valacyclovir. For 12 weeks, half of the enrolled patients took valacyclovir twice a day while the other half received a placebo. After two weeks, the placebo group received valacyclovir while the group originally treated with the drug switched to the placebo.