IIT Roorkee researchers discover potential drug to treat Chikungunya and other mosquito-borne diseases

The study conducted by IIT Roorkee is supported by the Indian Council of Medical Research (ICMR). It has been published in a peer-reviewed scientific journal.

As per the findings, Efavirenz, a drug widely used for HIV treatment, may serve as an effective therapy for Chikungunya disease, as it has been shown to reduce Chikungunya virus replication both in vitro and in mice models. (Handout)

Indian Institute of Technology (IIT) Roorkee scientists have discovered a potential drug that can possibly be used to treat Chikungunya, a mosquito-borne viral disease that causes fever, joint pain, muscle pain, and rash.

As per IIT Roorkee, Efavirenz, a drug widely used for HIV treatment, may serve as an effective therapy for Chikungunya disease, as it has been shown to reduce Chikungunya virus replication both in vitro and in mice models.

The finding is part of a study conducted by IIT Roorkee supported by the Indian Council of Medical Research (ICMR).

The study found that Efavirenz was able to reduce virus levels in lab-grown cell cultures and in an infected mice model.

As per the National Centre for Vector-Borne Disease Control, Chikungunya is a recurring public health concern in India, with cases reported across multiple states each year. Moreover, there is no approved antiviral treatment specifically for Chikungunya.

Additionally, it was also found during the study that Efavirenz affected the replication of the Sindbis virus which is related to Chikungunya.

Dr. Sanket Nehul, first author of the study, said that the findings suggest that Efavirenz can interfere with the virus early in its replication process.

“Since this drug is already widely used for HIV treatment, further clinical trials can explore its potential for Chikungunya treatment, reducing the time and cost required for developing new antiviral drugs,” Dr Nehul added.

Also read: IIT Bombay vs IIT Kanpur: How India’s two premier Engineering institutes did in placements in last 3 years- a comparison

Prof. Shailly Tomar, corresponding author of the study, highlighted the significance of these findings and said that people infected with Chikungunya rely on symptom management as there is no specific antiviral treatment at present.

“Our study provides initial scientific evidence that Efavirenz might be a potential antiviral drug for chikungunya treatment. However, clinical trials will be required to assess its effectiveness in the chikungunya patients,” Prof. Tomar stated.

Prof. Kamal Kishore Pant, Director of IIT Roorkee said that the institution is committed to research that can address public health challenges.

Also read: IIT Guwahati developing India's first VR-enabled metaverse platform for PM SHRI schools

He said, “This study is a step toward finding possible solutions for mosquito-borne viral infections.”

Notably, the research has been published in a peer-reviewed scientific journal.

However, IIT Roorkee maintained that the findings do not yet confirm Efavirenz as a treatment for Chikungunya and additional studies, and clinical trials will be required to evaluate its safety and effectiveness for treatment of Chikungunya in patients.

News Source:

https://www.hindustantimes.com/education/competitive-exams/aiims-norcet-8-registration-for-stage-i-and-stage-2-exam-ends-tomorrow-at-aiimsexams-ac-in-apply-here-101742128690222.html