

First pill for dengue shows promise in human challenge trial

October 21, 2023

Online Desk: A pill for dengue fever developed by Johnson & Johnson appeared to protect against a form of the virus in a handful of patients in a small human challenge trial in the United States, according to data presented by the company on Friday.

There are currently no specific treatments for dengue, a growing disease threat, the company said ahead of presentation of the data at the American Society of Tropical Medicine and Hygiene Annual Meeting in Chicago.

“It is the first ever to show antiviral activity against dengue,” Marnix Van Loock, who oversees emerging pathogens research for J&J’s Janssen division, said of the drug.

In human challenge trials, researchers intentionally expose healthy volunteers to a pathogen to test a vaccine or treatment, or better understand the disease they cause.

Dengue fever, while often asymptomatic, is also known as “break bone fever” for the severity of the joint pain and spasms that some patients experience. It has long been a scourge across much of Asia and Latin America, causing millions of infections each year and tens of thousands of deaths, and is likely to spread further as climate change makes more areas hospitable for the mosquitoes that spread it, the World Health Organization’s chief scientist Jeremy Farrar said earlier this month.

In the trial done with Johns Hopkins Bloomberg School of Public Health, 10 volunteers were given a high dose of the J&J pill five days before being injected with a type of dengue. They continued to take the pill for 21 days afterwards.

Six of the 10 showed no detectable dengue virus in their blood after being exposed to the pathogen, as well as no signs that their immune system had responded to infection by the virus over 85 days of monitoring.

The five people in a placebo group, who were also injected with dengue, all showed detectable virus when tested. Trial participants received standard care from medical professionals where necessary, and the virus used was a weakened version to minimise symptoms.

The positive early data supports ongoing Phase II trials of the pill to prevent the four different types of dengue in a real world-setting where the disease is common, J&J said. The next step will be testing it as a treatment.

The drug works by blocking the action of two viral proteins, preventing the virus from making copies of itself. It was well-tolerated by all trial participants, J&J said.

A key question for the future will be ensuring access to the new drug, if it works on a larger scale, in many of the low- and middle-income countries where it is most needed, an echo of the challenge for the dengue vaccine the WHO backed earlier this month.

“We’re working on it,” said Van Loock, adding that it was early days.