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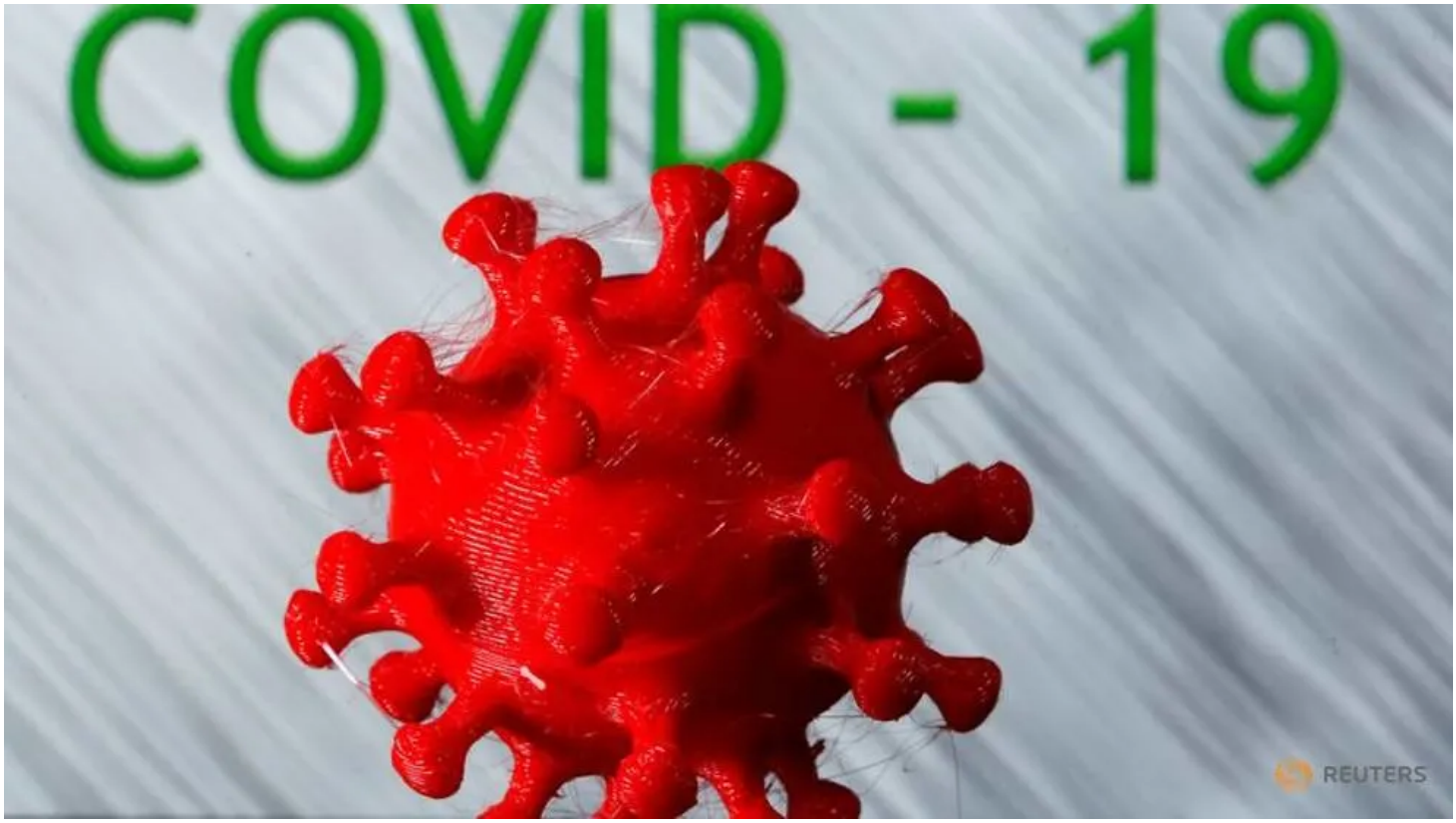

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~~FILE 3D-printed coron~~avirus model is seen in front of the words coronavirus disease (COVID-19) on display in this illustration taken March 25, 2020. REUTERS/Dado Ruvic/Illustration

Singapore company to start clinical safety trials in humans for potential COVID-19 treatment

By Jalelah Abu Baker (/author/8700780)
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SINGAPORE: A Singapore-based company will start human clinical trials next week for a treatment that could slow down the progression of COVID-19 in patients, help them recover faster, and provide temporary protection against the coronavirus.

In a media release on Wednesday (Jun 10), Tychan, a Singapore-based biotechnology company, said it has received approval from the Health Sciences Authority (HSA) for the Phase 1 clinical safety trial in healthy volunteers.

The firm has developed TY027, a monoclonal antibody that specifically targets SARS-CoV-2, the coronavirus that causes COVID-19. Monoclonal antibodies can be isolated and manufactured in large quantities to treat diseases.

Presently, there is no proven antibody-based treatment for COVID-19. There is also no licensed vaccine to prevent SARS-CoV-2 infection, Tychan said.

Tychan may become the first firm to start its human clinical trial in Singapore, although efforts in developing an antibody-based treatment are underway here and globally. As of Tuesday, Tychan's was the only registered clinical trial internationally for such a treatment.

Depending on the results of the trial, there are various ways it can be used, said Professor Ooi Eng Eong of Duke-National University of Singapore (Duke-NUS) Medical School, who is also the firm's co-founder.

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DRUG COULD BE USED IN VARIOUS WAYS DEPENDING ON TRIAL RESULTS

"You could use it to treat all COVID-19 patients and prevent them from getting severe disease. You could also give it to those who are going to get severe disease and prevent them then from sliding further in their respiratory function," he said.

For those who already require oxygen, the hope is that the drug will prevent them from needing a ventilator, and for patients who are already on ventilators, that they could go off the ventilators, he added.

"If the treatment works for COVID-19, then we could change a lot. We could reduce a lot of problems that we face," he said, noting that patients with severe disease need oxygen and ventilators, without which they would die.

"We hope that this treatment that we have will reduce the number of people who go into such severe disease and hopefully, the number of people who die of COVID-19 becomes minimal," he said.

The drug will also be evaluated for its potential to provide temporary protection against infection with SARS-CoV-2, Tychan said.

"We could even, for instance, give this to healthcare workers who are treating COVID-19 patients so that they don't get infections themselves," Prof Ooi said, adding that this would depend on the results of the trial.

People traveling to places with many COVID-19 cases could also use the drug to prevent infection, he said.

PHASE 1 TO LAST ABOUT SIX WEEKS

Doses of the monoclonal antibody will be administered by blood to 23 healthy volunteers, and the research team will then evaluate its safety. The Phase 1 trial, to be conducted by SingHealth Investigational Medicine Unit, will take about six weeks to evaluate the safety and tolerability of TY027, Tychan said.

The potential treatment was developed in partnership with the Ministry of Defence, Ministry of Health, the Economic Development Board and other Government agencies as part of a whole-of-Government effort.

"Upon reaching the key milestones of the Phase 1 trial, Tychan will seek approval from HSA for TY027 to be administered to a larger population of volunteer patients in subsequent trials to establish the efficacy of the monoclonal antibody," it said in its statement.

TY027, made on Feb 25, was identified as the "most promising" among several monoclonal antibodies that demonstrated 100 per cent neutralisation against live SARS-CoV-2 viruses in the lab, Tychan said.

"It has also successfully completed pre-clinical safety studies and other regulatory requirements, including a three-week drug stability test. These were all completed in less than four months before this first-in-human infusion," Tychan said.

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This is an important milestone for drug development against infectious diseases, Prof Ooi said, adding that getting into clinical trials usually takes about two or three years.

However, he cautioned that many drugs fail at clinical trial stage and do not get licences.

"There's still a lot of work for us to do," he said.

"Rapidly developing a cure for COVID-19 is exactly the raison d'etre of Tychan," said chairman of the firm's Board, Teo Ming Kian.

"Whilst still a few months away from knowing if we are successful, we are hopeful because of our experience in Zika and Yellow Fever. No efforts will be spared to continue the fast pace of development as we are conscious that a day saved is a day less of misery."

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