COVID-19: International Research Update

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<table>
<thead>
<tr>
<th>Sl.</th>
<th>Title</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>WHO Director-General's opening remarks at the media briefing on COVID-19</td>
<td>03</td>
</tr>
<tr>
<td>2</td>
<td>UC Davis launches two clinical studies to treat COVID-19</td>
<td>03</td>
</tr>
<tr>
<td>3</td>
<td>USFDA update on COVID-19</td>
<td>04</td>
</tr>
<tr>
<td>4</td>
<td>Coronavirus: The woman behind India's first testing kit</td>
<td>04</td>
</tr>
<tr>
<td>5</td>
<td>Russian scientists take the first photo of a novel coronavirus and fully decode its genome</td>
<td>04</td>
</tr>
<tr>
<td>6</td>
<td>Russia plans to start series production of new vaccine against coronavirus in 1.5 years</td>
<td>04</td>
</tr>
<tr>
<td>7</td>
<td>29th March 2020: Australian researchers to trial BCG vaccine for COVID-19</td>
<td>05</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
COVID-19 International Research follow up


WHO Director General has called upon all countries who have introduced so-called “lockdown” measures to use this time to attack the virus through following six key actions:

1. **First**, expand, train and deploy your health care and public health workforce;
2. **Second**, implement a system to find every suspected case at community level;
3. **Third**, ramp up the production, capacity and availability of testing;
4. **Fourth**, identify, adapt and equip facilities you will use to treat and isolate patients;
5. **Fifth**, develop a clear plan and process to quarantine contacts and;
6. **Sixth**, refocus the whole of government on suppressing and controlling COVID-19.

These measures are the best way to suppress and stop transmission, so that when restrictions are lifted, the virus doesn’t resurge.


26th March 2020: UC Davis launches two clinical studies to treat COVID-19

**Remdesivir study:** UC Davis is one of approximately 75 sites worldwide evaluating the benefits of Remdesivir for severe COVID-19 infection. Remdesivir is an investigational broad-spectrum antiviral treatment developed by Gilead Sciences Inc. It was previously tested in humans with Ebola virus disease and has shown promise in animal models for treating Middle East respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS), which are caused by other coronaviruses. UC Davis physicians used remdesivir in February, with emergency approval from the Food and Drug Administration, to treat a critically ill patient who was the first known case of community-acquired infection in the U.S. The patient has since returned home to recover. The study will enroll up to 440 patients over the next several months, including about 10 or more at UC Davis. Among other criteria, participants must be 18 years of age or older, have a confirmed SARS-CoV-2 test and poor lung function.

**Sarilumab study:** UC Davis is one of up to 50 sites in the U.S. assessing sarilumab, a drug jointly developed by Regeneron and Sanofi pharmaceutical companies for the treatment of rheumatoid arthritis. The drug is a human monoclonal antibody that blocks the receptor for interleukin-6 (IL-6), a cytokine that plays an important role in the body’s immune response and in generating fever and acute inflammation. The study will evaluate whether the drug can control the progression of the inflammatory response in the lungs of patients with severe COVID-19 infection. Approximately 400 hospitalized patients age 18 and older with acute COVID-19 infection can be enrolled in the study nationwide. Individuals will be grouped according to the severity of their illness and progression of symptoms, from severe to critical to having multi-system organ failure as well as whether cortisone drugs were used to reduce inflammation. The researchers will be determining whether the health of individuals with high IL-6 levels and severe/critical levels of infection improve with the drug.

**Source:** https://www.newswise.com/articles/uc-davis-launches-two-clinical-studies-to-treat-covid-19 accessed at 12:35 PM IST on 28th March 2020
27th March 2020: USDA update on COVID-19: The FDA issued a letter to stakeholders about the imminent threat to the health of consumers who may take chloroquine phosphate products used to treat disease in aquarium fish, thinking the products are interchangeable with FDA-approved drugs (used to treat malaria and certain other conditions in humans) that are being studied as a COVID-19 treatment for humans. Chloroquine products sold for aquarium use have not been evaluated by the FDA to determine whether they are safe, effective, properly manufactured, and adequately labeled for use in fish-let alone humans.


28th March 2020: Coronavirus: The woman behind India’s first testing kit: India has been criticized for its poor record of testing people in the battle against coronavirus. That, however, is set to change, thanks in large part to the efforts of one virologist, who delivered on a working test kit, just hours before delivering her baby. On Thursday (26th March 2020), the first made-in-India coronavirus testing kits reached the market, raising hopes of an increase in screening of patients with flu symptoms to confirm or rule out the Covid-19 infection. Mylab Discovery, in the western city of Pune, became the first Indian firm to get full approval to make and sell testing kits. It shipped the first batch of 150 to diagnostic labs in Pune, Mumbai, Delhi, Goa and Bengaluru (Bangalore) this week. "Our manufacturing unit... is working through the weekend and the next batch will be sent out on Monday," Dr Gautam Wankhede, Mylab’s Director for medical affairs, told the BBC on Friday. The molecular diagnostic company, which also makes testing kits for HIV and Hepatitis B and C, and other diseases, says it can supply up to 100,000 Covid-19 testing kits a week and can produce up to 200,000 if needed. Each Mylab kit can test 100 samples and costs 1,200 rupees ($16; £13) - that’s about a quarter of the 4,500 rupees that India pays to import Covid-19 testing kits from abroad.


28th March 2020: Russian scientists take the first photo of a novel coronavirus and fully decode its genome: Russian scientists have managed to sequence the first complete genome of the coronavirus, the Russian Health Ministry confirmed on March 19. "This coronavirus is new to us, so it is essential to have an opportunity to identify the path of its spread and entry into the territory of our country, and its mutations. This information will help develop vaccines and antiviral drugs to treat the coronavirus,” said Dmitry Lioznov, acting head of the Smorodintsev Research Institute of Influenza, whose specialists decoded the genome. Soon, this data will be sent to the World Health Organization database so that scientists from other countries can have access to it. In the meantime, scientists from the VECTOR State Research Center of Virology and Biotechnology in Novosibirsk have managed to take pictures of COVID-19 under a microscope.

Accessed on 28 March 2020, 6:00 PM

28th March 2020: Russia plans to start series production of new vaccine against coronavirus in 1.5 years: Russia will need about 1.5-2.5 years in order to create a vaccine against coronavirus and launch it into a series production, according to recent statements made by Dmitry Lioznov, an acting Director of the Smorodintsev Research Institute of Influenza, one of Russia’s leading research institutions in the field of influenza treatment.
According to Dr Lioznov, despite the fact that the development of vaccine is usually a quick process for scientists, it is followed by the long procedure of its pre-clinical studies on animals as well as studies on volunteers. So far, scientists at the Smorodintsev Institute have already completed the decoding of the COVID-19 genome taken from the biomaterial of a Russian patient and are ready to begin its pre-clinical studies. Dr Lioznov comments: “Now it’s difficult to say how much the strain, deciphered in Russia differs from the first sample of the coronavirus, deciphered in China. Now the WHO genetics bank has sequences of several hundred samples obtained in different countries. The variability of the virus, its evolution is necessary both for predicting its spread and for creating an effective vaccine and drugs, but comparing the gene structure of different strains, taken from different patients is a laborious process, which requires the use of special computer programs. This work is ongoing.”


29th March 2020: Australian researchers to trial BCG vaccine for Covid-19: Researchers at the Murdoch Children’s Research Institute in Australia are set to conduct a randomised, multi-centre clinical trial to test the use of tuberculosis vaccine BCG against Covid-19. The BRACE trial is intended for healthcare workers. It is based on previous study findings that BCG decreases the level of virus in patients infected by viruses similar to SARS-CoV-2. Murdoch Children's Research Institute director Kathryn North said: “This trial will allow the vaccine's effectiveness against Covid-19 symptoms to be properly tested, and may help save the lives of our heroic frontline healthcare workers.” The controlled trial is expected to enrol approximately 4,000 healthcare workers at hospitals across Australia, including the Melbourne Campus’ Royal Children's Hospital. BCG will be assessed for its ability to mitigate the prevalence and severity of Covid-19 symptoms. More than 130 million babies currently receive the BCG vaccination for tuberculosis each year. The vaccine is said to enhance ‘frontline’ immunity. The improved immunity is expected to provide the time required to develop and validate a specific vaccine for Covid-19 infection. The BRACE study is based on an existing trial at the institute, which led to human ethics approvals. The existing trial is being conducted at sites across Australia. North added: “Using rapidly sourced and immediately deployable funds, we will be relentless in our pursuit of preventions and treatments for this unprecedented pandemic. “These trials will allow the rapid advancement of the most promising candidates to clinical practice, giving us the most number of shots on goal against Covid-19 as possible.” Trials of potential vaccine candidates for Covid-19 are already underway in the US and China.