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Lung fibrosis

Covid-19: Cured patients coming back with lung fibrosis (The Tribune: 2020106)

https://wap.justdial.com/verticals/cricket/matchanalysis?source=2&version=null&sc=1601827243781&c=1&abtest=0&hide_header=1&openchat=1

Covid-19: Cured patients coming back with lung fibrosis

Tricity doctors have detected a worrying trend of cured Covid-19 patients returning after a few weeks with lung fibrosis — scarring of lung tissues, breathlessness and muscle ache.

It has been two months since a Covid patient in his 70s was sent home from hospital as per the guidelines of the government. However, the path to recovery has been slightly longer for him. “Whenever I am at rest, I face no problem at all. However, as soon as I get up to start any physical activity, I don’t find enough strength in my body. I cannot walk beyond 3 km as I get tired easily. I often feel breathlessness,” said the 72-year-old man. A 33-year-old man, who contracted the infection on August 25, said he felt drowsiness most of the time along with muscle pain.

Dr Sahajal Dhooria from the Department of Pulmonary Medicine, PGI, said, “Breathlessness, fatigue, muscle pain and cough are the residual symptoms post-Covid. Internal swelling in lungs during acute Covid illness heals with scarring and shrinkage, resulting in a reduction in the lung capacity, which leads to breathlessness and cough.”

Post-Covid lung fibrosis stiffens lung tissues and makes it harder for the patient to breathe properly, sometimes requiring oxygen support.

Dr Dhooria added, “An increasing number of patients with the PGI is reporting symptoms of breathlessness and fatigue after Covid. Some of them have also reported lung fibrosis and we are providing them care through consultation. Patients who develop lung fibrosis may develop

shortness of breath for a long time. Hence, it is important to identify such patients and treat early. Around two in 10 hospitalised patients on oxygen may develop this complication.”

“Correct management during acute Covid illness is important. The exact factors are unknown. Patients who show signs of post-Covid diffuse lung disease (lung fibrosis) might need prolonged treatment with certain drugs such as steroids and antifibrotic medicines,” said Dr Dhooria.

Dr Amit Mandal, Director, Pulmonology, Sleep and Critical Care, Fortis Hospital, Mohali, said, “We have seen patients complaining of body aches, lethargy, breathlessness and inability to perform a certain task at the same level at which the body used to perform. These are the most common post-Covid symptoms. Any viral illness triggers some weakness in which patients experience a lack of energy. If someone is used to working an entire day, the person may not be able to work after an hour post-Covid.”

Dr Mandal said, “Some of our patients who had severe lung involvement during the Covid-19 illness are now dealing with lung fibrosis. Such patients are going with additional oxygen support to their homes. Patients who are diabetic are facing fluctuating blood sugar levels after discharge. This is so because Covid-19 patients are required to be treated with steroids. These medications are stepped down gradually over a period of time. With stepping down of steroids, blood sugar levels also fluctuate. “We have been so overworked with the pandemic that managing post-Covid care has been a challenge across the country. We are trying to call our patients after three weeks for a follow-up,” added Dr Mandal.

WHO:

WHO: 10 pc of world’s people may have been infected with coronavirus (The Tribune: 2020106)

<https://www.tribuneindia.com/news/health/who-10-pc-of-worlds-people-may-have-been-infected-with-coronavirus-151406>

Experts have long said that the number of confirmed cases greatly underestimates the true figure

WHO: 10 pc of world’s people may have been infected with coronavirus
Photo for representation. Reuters file

The head of emergencies at the World Health Organisation said on Monday that its “best estimates” indicated that roughly one in 10 people worldwide might have been infected by the coronavirus — more than 20 times the number of confirmed cases — and warned of a difficult period ahead.

Dr Michael Ryan, speaking to a special session of the WHO's 34-member executive board focusing on COVID-19, said the figures vary from urban to rural, and between different groups, but that ultimately it means "the vast majority of the world remains at risk."

He said the pandemic would continue to evolve but that tools exist to suppress transmission and save lives.

"Many deaths have been averted and many more lives can be protected," Ryan said. He was flanked by his boss, WHO Director-General Tedros Adhanom Ghebreyesus, who minutes earlier led a moment of silence to honour victims as well as a round of applause for the health workers who have strived to save them.

Ryan said southeast Asia faced a surge in cases, Europe and the eastern Mediterranean were seeing an increase in deaths, while the situations in Africa and the Western Pacific were "rather more positive".

"Our current best estimates tell us that about 10 per cent of the global population may have been infected by this virus," Ryan told attendees from member governments who make up the executive board and provide much of its funding.

The estimate — which would amount to more than 760 million people based on a current world population of about 7.6 billion — far outstrips the number of confirmed cases as tallied by both WHO and Johns Hopkins University, now more than 35 million worldwide.

Experts have long said that the number of confirmed cases greatly underestimates the true figure.

The comments came during a special session of the executive board to consider the follow-up to its previous meeting, in May, that passed a resolution to look into the world's — and WHO's — response to the pandemic. Ryan warned that the world was "now heading into a difficult period. The disease continues to spread. It is on the rise in many parts of the world". AP

Hepatitis C virus discovery

3 win Nobel medicine award for hepatitis C virus discovery (The Tribune: 2020106)

<https://www.tribuneindia.com/news/health/3-win-nobel-medicine-award-for-hepatitis-c-virus-discovery-151374>

World Health Organisation estimates there are over 70 million cases of hepatitis worldwide and 400,000 deaths each year.

3 win Nobel medicine award for hepatitis C virus discovery

Americans Harvey J Alter and Charles M Rice, and British scientist Michael Houghton were awarded the Nobel Prize for Medicine. Image: Twitter/@NobelPrize

Americans Harvey J Alter and Charles M Rice, and British scientist Michael Houghton were awarded the Nobel Prize for Medicine or Physiology on Monday for the discovery of the hepatitis C virus.

The head of the Nobel Committee, Thomas Perlmann, announced the winners in Stockholm.

The World Health Organisation estimates there are over 70 million cases of hepatitis worldwide and 400,000 deaths each year. The disease is chronic and a major cause of liver inflammation and cancer.

The prestigious award comes with a gold medal and prize money of 10 million Swedish kronor (over \$1,118,000), courtesy of a bequest left 124 years ago by the prize's creator, Swedish inventor Alfred Nobel.

The medicine prize carried particular significance this year due to the coronavirus pandemic, which has highlighted the importance that medical research has for societies and economies around the world.

The award is the first of six prizes being announced through October 12. The other prizes are for outstanding work in the fields of physics, chemistry, literature, peace and economics. —AP

Adolescents

Self-harm may be socially contagious among adolescents: Study (The Tribune: 2020106)

<https://www.tribuneindia.com/news/health/self-harm-may-be-socially-contagious-among-adolescents-study-151001>

Communication is key, according to experts

Self-harm may be socially contagious among adolescents: Study

Self-injury—behaviours like cutting oneself without the intent to die—may be contagious among teenagers, who are more likely to harm themselves when they know someone who has, say researchers.

The study, published in the journal Acta Psychiatrica Scandinavica, used 2014 data collected from over 1,400 Ontario teenagers between the ages of 14-17.

The team focused on the answers to the question, "Has a friend of yours ever hurt themselves without the intention to die?"

A positive response saw the respondent two to three times as likely to answer 'Yes' to the question of whether they have thought about, or done, the same. These results are of concern, especially during the Covid-19 pandemic, because, apart from being a sign of acute distress, non-suicidal self-injury is a predictor of later suicidal behaviour and more widespread.

"Non-suicidal self-injury is much more common than suicide attempts—twice as common in this study—and many, many times more common than death by suicide," said study author Dr Ian Colman from University of Ottawa in Canada.

Dr Colman's study builds on previous research showing teens who are exposed to suicide among their peers are more than twice as likely to demonstrate suicidal behaviour or harbour suicidal thoughts than those who are not exposed.

This sort of communication of ideation and behaviour is a form of contagion, and its spread can be tracked by epidemiologists just as physically communicable diseases are studied. Knowing that suicide is made more likely by knowledge about someone else's suicide, societal measures have been put in place to protect vulnerable populations from exposure.

Less obvious are the measures that can slow or protect against socially contagious behaviours among teens, who can be expected to communicate freely among themselves, without referring to guidelines.

Communication is key, according to experts.

Conversations with a trusted adult who lends a listening ear, with no threat of judgment, can be helpful throughout adolescence, including for someone who is having thoughts of self-harm.

"There's a belief that a parent talking to their child about suicide may increase the risk of suicide or self-harm," said Dr Colman. IANS

Covid-19: What you need to know today (Hindustan Times: 2020106)

<https://epaper.hindustantimes.com/Home/ArticleView>

US President Donald Trump's Covid-19 infection and the treatment he is receiving is a good opportunity to revisit the science behind some aspects of the viral disease and the therapies and drugs used to treat it.

We know Trump used to take hydroxychloroquine (HCQ), once widely considered a prophylactic for Covid-19, before science showed that it (probably) wasn't. Sure, it wasn't as straightforward as that — there were missteps along the way, including research that used

dodgy data, but the current scientific thinking is that HCQ does not help prevent the coronavirus disease.

Trump admitted he had been taking HCQ for a few weeks in a May meeting that was widely reported. Interestingly, the details of his current medication released by his physician do not mention HCQ. They do mention zinc — considered by some to be a prophylactic against Covid-19, in particular, and a general immunity booster —but it isn't clear whether he has been taking this to ward off the coronavirus disease or it is part of his daily vitamin supplements (which, as we all know, the Americans are particularly big on).

In addition to this, we know Trump was put on oxygen at least once (although his blood oxygen level dropped twice). This is common in people with moderate Covid-19 infections. The condition is hypoxia, literally low oxygen, and is a sign of the infection starving the body of oxygen. Both anecdotal medical evidence and research has shown that, in some cases, Covid causes silent hypoxia — which means the patient doesn't exhibit the symptoms hypoxia usually comes with (including incoherence, which usually accompanies altitude sickness).

Trump's doctor also said the US President has been put on a dose of remdesivir. This is an injected antiviral which has been shown to benefit mild-to-moderate infections of Covid-19, in the early stages of hospitalisation. Patients get five shots of remdesivir as part of the treatment.

Interestingly, Trump's doctor also said the US President has been put on dexamethasone. This is a steroid whose use is recommended only in severe cases of Covid-19, and whose benefits have, again, been proved by research. It isn't clear why Trump is being given this if his infection is, as the White House claims, mild; nor is it clear whether dexamethasone can provide any relief at all to early-stage patients. Worryingly, we do not know if the steroid has any adverse effect when given to patients who do not really need it. Indeed, some media reports in the US have used this fact to ask whether the US President's infection is more severe than what is being claimed.

In a classic example of throwing the kitchen sink at the infection — I notice several doctors have actually used the same term — Trump's doctor has also revealed that the US President has taken an experimental antibody cocktail made by Regeneron. Previous editions of Dispatch have talked about Regeneron, whose cocktail of two monoclonal antibodies targets the spike proteins of the Sars-CoV2 virus. Keeping with the kitchen sink metaphor, it has been revealed that Trump received a more powerful dose of the cocktail (eight grams as compared to the 2.4 grams the company said was usually effective). The US President received this drug through the so-called “compassionate use” route, which allows for the use of experimental drugs that are yet to be approved (and do not even have an emergency-use clearance). Regeneron has released early data from a clinical trial underway that shows that the monoclonal antibody cocktail works in patients with no antibodies against Covid-19 and who are either asymptomatic or have a mild or moderate infection. It still isn't clear whether this treatment can work in the case of severe infections. That's a lot of treatment options.

So, is there anything left?

Well, China's Sinopharm disclosed recently that several hundred thousand people have already been injected with its experimental vaccines, and Russia has approved the Gamaleya Research Institute's Sputnik-V vaccine — but it is unlikely that the US President would allow himself be injected with an unproven vaccine from a rival power.

The US drug regulator has also approved convalescent plasma therapy, and that too is a treatment option yet to be used by Trump's medical team. The US President has talked up plasma therapy in the past, despite a panel of experts put together by the US National Institutes of Health in early September saying more evidence is needed before plasma therapy can be recommended for Covid-19 patients.

Pandemic peak

Pandemic peak: On Finance Ministry's report (The Hindu: 2020106)

<https://www.thehindu.com/opinion/editorial/pandemic-peak-on-finance-ministrys-report/article32776225.ece>

The economy needs to be unlocked with caution, without resort to irrational optimism. The Finance Ministry in a report said that while the pandemic was far from over in India, the country may be “past its peak” of the COVID-19 case load. It premised this on a declining case load from September 17-30 when the daily positive cases dipped from 90,000 to 83,000 a day. This, along with an increase in testing had led to a falling test-positivity (or the number of tests needed to find a positive case) and so was a sign that India ought to be ‘further freeing up its economy.’ The pandemic being past its peak in India is irrational optimism. Last week the chief of the Indian Council of Medical Research, while announcing the results of the second all-India serology survey, said only 7% of Indians had been exposed to the virus. The Health Minister too, referencing the same survey, said that India was “far from any sort of herd immunity.” The decline from 90,000 cases a day to around 75,000 for over a fortnight is certainly welcome but can be deceptive. In the United States, daily cases steadily plummeted from 70,000 in July to 24,000 in September, to ascend again to 50,000 this week. India's test positivity is declining but not substantially. On September 23 it was 8.52% and as of October 4 had fallen to 8.29% — an improvement but not close to the World Health Organization-suggested safety barrier of less than 5%.

COVID-19 vaccine

Weighing the costs: On COVID-19 vaccine (The Hindu: 2020106)

<https://www.thehindu.com/opinion/editorial/weighing-the-costs-the-hindu-editorial-on-covid-19-vaccine/article32726484.ece>

A prohibitively expensive vaccine, besides being unacceptable, will do little good. With over 6 million cases and the death toll from COVID-19 approaching 100,000, India is entering the first winter of the pandemic. Viral infections, particularly of the influenza variety, are also common at this time of the year and there may be new unknowns in the risks that lie ahead. However, another potential milestone approaches: the probable availability of a vaccine. Union Health Minister Harsh Vardhan, on multiple occasions has said that an India-made vaccine was likely to be available in "early 2021". The government already has an expert committee on vaccine distribution. Their job is to decide who gets the vaccine first, how many will be eligible for the early doses, what the costs would be, and whether there should be a cost at all for the majority of Indians, who anyway were the hardest hit by the pandemic in the summer. Storage and supply of vaccines are also problems as daunting as making one and pose complex challenges in India. The government is yet to make its policy on distribution explicit but the current thinking appears to be that nobody would be denied a vaccine on the grounds of affordability. There is even discussion that a vaccine may be available via the national immunisation programme. This initiative currently offers at least nine vaccines for preventable diseases free for children and pregnant women. The pandemic's global nature has meant that even the quest for a vaccine is international. The GAVI Covax alliance has emerged as the largest coordinator of vaccine development as well as distribution of a probable vaccine. Based on a combination of payments by 78 high-income countries and donations, the GAVI Covax aims to ensure that between 15-20% of every country's population, or at least their most vulnerable, are able to be inoculated first.

Mental health

Caring for others is a key driver in getting people to use chatbots for mental health (The Hindu: 2020106)

A new study from North Carolina State University and Syracuse University assessed what would motivate people to use chatbots for mental health services.

The researchers found that users' desire to help others with mental health problems was a more powerful driver than seeking help for their own problems.

"We saw a sharp increase in mass shootings in the U.S. in recent years, and that can cause increases in the need for mental health services. And automated online chatbots are an increasingly common tool for providing mental health services - such as providing information or an online version of talk therapy," says Yang Cheng, first author of the study and an assistant professor of communication at NC State.

"But there has been little work done on the use of chatbots to provide mental health services in the wake of a mass shooting. We wanted to begin exploring this area, and started with an assessment of what variables would encourage people to use chatbots under those circumstances," added Cheng.

The researchers conducted a survey of 1,114 U.S. adults who had used chatbots to seek mental health services at some point prior to the study.

Study participants were given a scenario in which there had been a mass shooting, and were then asked a series of questions pertaining to the use of chatbots to seek mental health services in the wake of the shooting.

The survey was nationally representative and the researchers controlled for whether study participants had personal experiences with mass shootings.

The researchers found a number of variables that were important in driving people to chatbots to address their own mental health needs. For example, people liked the fact that chatbots were fast and easy to access, and they thought chatbots would be good sources of information.

The study also found that people felt it was important for chatbots to be humanlike, because they would want the chatbots to provide emotional support.

But researchers were surprised to learn that a bigger reason for people to use chatbots was to help other people who were struggling with mental health issues.

"We found that the motivation of helping others was twice as powerful as the motivation of helping yourself," Cheng said.

Helping others, in this context, would include talking to a chatbot in order to help a loved one experiencing mental illness from getting worse; finding ways to encourage the loved one to access the chatbot services; or to demonstrate to the loved one that the services are easy to use.

"Our study offers detailed insights into what is driving people to access mental health information on chatbot platforms after a disaster, as well as how they are using that information," Cheng said.

"Among other applications, these findings should be valuable for the programmers and mental healthcare providers who are responsible for developing and deploying these chatbots," added Cheng.

E-cigarettes

Parents remain in the dark when kids use e-cigarettes (New Kerala: 2020106)

<https://www.newkerala.com/news/2020/176379.htm>

Most parents know or suspect when their kids smoke but they are much more likely to be in the dark if the child uses electronic-cigarettes, commonly known as e-cigarettes, says a study.

Parents or guardians were substantially less likely to report knowing or suspecting that their child had used tobacco if the child used only e-cigarettes, or smokeless tobacco, compared to

smoking cigarettes or using multiple tobacco products, showed the findings published in the journal Pediatrics.

The researchers also found that when parents set strong household rules about not using tobacco -- applying to all residents -- their children were less likely to start tobacco use.

Just talking to kids about not smoking was far less effective.

"We know that tobacco-free homes are a key tool to help prevent smoking by kids," said corresponding and senior author Benjamin Chaffee, Associate Professor at the University of California San Francisco's school of dentistry.

"What studies haven't examined is how tobacco-free homes stack up against other approaches and how much tobacco-free home rules might help with other tobacco products beyond smoking."

Teenagers living in homes with the strictest rules prohibiting tobacco use were 20-26 per cent less likely to start using tobacco, compared to youth living in the most permissive homes, said the study which tracked more than 23,000 participants in the US aged 12 to 17 years old.

In addition to cigarettes and e-cigarettes, the study looked at non-cigarette combustible products (including cigars, pipes, hookahs, and bidis), and smokeless tobacco (including snuff, chewing tobacco, snus, and dissolvable tobacco).

It found that parents were more likely to know or suspect that their child was using a tobacco or nicotine product if the child was older, male, identified as white, and lived with a tobacco user, as well as if the parents were less educated.

Mental health services

COVID-19 disrupted mental health services in most countries despite high demand: WHO (New Kerala: 2020106)

A survey by the World Health Organization (WHO) on the impact of the COVID-19 pandemic shows that mental health services have been disrupted in 93 per cent of countries despite increased demands, Devora Kestel, the director of WHO's Department of Mental Health and Substance Use, said on Monday.

The WHO official specified that the survey was conducted in 130 countries across WHO's six regions from June to August 2020.

"The results are in a way confirming what we understood from previous preliminary surveys that indicated that now in almost 90 per cent of countries, 89, to be precise, per cent of

countries, do have a national mental health and psychological support plans, but only 17 per cent of them do have funding allocated to implement those plans. We have also found that only 7 per cent of countries confirm no disruption of services, which means that in 93 per cent of countries some kind of disruptions took place," Kestel told a virtual briefing.

According to the WHO official, there has been a continuation of inpatient services despite the pandemic, but outpatient services were most affected.

"In terms of geographical location, I would say that the most evident distinction is among high-income countries or middle-to-high income countries versus low-income countries, where you see better coverage in some cases in high-income countries rather than in low-income countries," Kestel said.

She underlined that mental health services have been historically underfunded.

Nature's healing powers

Harnessing nature's healing powers innovative herbal solutions to your health concerns (New Kerala: 2020106)

<https://www.newkerala.com/news/2020/176337.htm>

The incessant pursuit of development has accelerated life's pace. As a result, health concerns have moved down our priority list.

To compensate, the age of innovation has also successfully reconnected us to our roots. With the advent of increasing health awareness, Ayurveda, the holy grail of natural medicine has seen a tremendous rise in consumers across the globe. To put it concisely, Ayurveda is the future of medicine. It's a revelation that works not only on therapeutic levels but also brings out the essence of our country.

Emanating a familiar feeling and deeply rooted in the country's oldest traditions, this branch of authentic natural medicine is your safest bet. With zero side effects and comprehensive all round action on all health problems, it has emphasised on the importance of natural therapeutics. Pioneered by Dr MS Basu, a man who revolutionized eye care and treatment with his path-breaking Isotone Eye Drops, Jagat Pharma is one of the most prominent names in Ayurvedic medicine.

Dr Basu possesses a plethora of degrees such as BAMS (Kanpur), MRSH (England), FOPG (New Delhi) and MAGS (USA) to name a few.

Not only that, he is also the recipient of several prestigious awards including Award for Excellence in Ayurvedic Ophthalmology by Health Minister of India, JP Nadda and Dr Jitendra Singh, Minister of State (PMO), EUP Ratna Award by Minister Nitin Gadkari, Awards for

Excellence in Ayurvedic Practice by Union Minister of State Ayush, Shripad Yesso Naik and Award for Excellence in Pharmaceuticals by Union Information and Broadcasting Minister, Rajya Vardhan Singh Rathore. The company is grounded in Bareilly, UP (India), with a service legacy of 35 years committed to research on herbs and remedies.

With premier infrastructure and experienced Researchers, the organization is devoted to creating herbal solutions and medicines for all health needs.

Now, under his guidance, more products; Bansa (for cough and respiratory tract infection) and White Free (for Leucorrhoea or White Discharge) have marked their presence in the Ayurvedic sphere. By taking over the reins of the vision that promises to rid the world of blindness, the Chief Executive Officer, Dr Mandeep Basu frontlines a team of highly dedicated and qualified professionals who work relentlessly and earnestly to offer supreme quality herbal medicines to consumers under Jagat Pharma.

With a Bachelor's Degree in Ayurvedic Medicine and Surgery (BAMS), and Diploma in Optometry (D Opt) from Lucknow, he is a certified Eye Specialist and an experienced Ayurvedic consultant. Dr Mandeep has also taken up the responsibility of personally administering the marketing and distribution of Isotine and its communication across all media platforms. The Ayurvedic pharmaceutical company offers a range of three highly specialized products; the cough syrup 'Isotine', 'Bansa', and 'Whitefree'. The success story of Isotine is perhaps what consolidated Jagat Pharma's position as a pre-eminent Ayurvedic company. Isotine Eye Drops, an ayurvedic solution based on rare herbs and bhasmas, assures 100 per cent natural remedy with zero side effects. Dr Basu's ingenious discovery relieves incurable retinal eye diseases such as cataract, glaucoma, macular degeneration, diabetic retinopathy as well as eye stress and computer screen strain effectively while also helping in improving the vision.

It is filled with the goodness of wholesome natural ingredients such as Mint, Tankana purified, Yashed Bhasma purified and Tuth bhasma purified which strengthens eye muscles and restores their immunity, hence uprooting the very cause behind cataract and several other eye problems.

Isotine is also extremely helpful in minimal focal powers for far and nearsighted issues. Ayurveda empowers the world with vision <https://www.youtube.com/watch?v=YZpyUNXj7tA> and feature=youtu.be Dr Basu's Bansa Cough Syrup is an effective Ayurvedic formulation that helps treat respiratory tract infections and common cough and cold. It is equipped with anti-diabetic, anti-acidic, anti-viral and anticonvulsant properties and works as a bronchodilator, a cardiac stimulant, and an antispasmodic agent.

The non-toxic, non-alcoholic and non-sedative cough syrup provides the best results with zero side effects.

Brimming with natural herbs such as Sunthi, Mulethi, Ajwain and Tulsi, Bansa is undeniably an impeccable invention to fight off cough and respiratory tract infections. A radical innovation in the feminine hygiene segment, Jagat Pharma's White Free is a medically proven research-based ayurvedic preparation for treating non-specific adjuvant Leucorrhoea, commonly known as white discharge.

It is augmented with calcium and contains a selective combination of herbs such as Ashoka, Sahajan, Sitawari, Guduchi, Jaiphal etc. thus working as an anti-inflammatory medicine and an analgesic that enriches and rejuvenates your body.

It is also immensely helpful in solving the vaginal pH imbalance (that is supposed to remain at a normal range of 3.5 to 4.5). Established as a leading name in healthcare, Jagat Pharma's arsenal of achievements is rather impressive. Awards and Achievements

* Award for excellence in Ayurvedic Ophthalmology by Health Minister of India, JP Nadda and Dr Jitendra Singh, Minister of State (PMO). * EUP Ratna Award by Minister Nitin Gadkari. * Awards for excellence in Ayurvedic Practice by Union Minister of State Ayush, Shripad Yesso Naik. * Award for excellence in Pharmaceuticals by Union Information and Broadcasting Minister, Rajya Vardhan Singh Rathore. * Pride of India Award by Ambassador of Chicago and Slovenia. * Award for Excellence in Ayurveda by Minister of Thailand. * Rashtriya Gaurav Award by Central Program and Planning Minister. * Award for Excellence in Ayurvedic Ophthalmology by Cabinet Minister Rita Bahuguna Joshi. * Shaurya Excellence Award in Eye Care by UP Governor Ram Nayak. * UP RATNA* Asia's Best brand Award (Singapore) by PricewaterCoopers India. * Excellence in Eye Care by UP Health Minister Sidharth Nath Singh. * Youngest Entrepreneur Award by Vice President - of India, Venkaiah Naidu. * Award for Excellence in Health Care Leadership Award 2017 by ABP News Health Awards.

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SARS-CoV-2

Study reveals dozens of mammals could be susceptible to SARS-CoV-2(New Kerala: 2020106)

<https://www.newkerala.com/news/2020/176304.htm>

Numerous animals may be vulnerable to SARS-CoV-2, the virus that causes Covid-19, according to a large study modelling how the virus might infect different animals' cells, led by UCL researchers.

The study, published in Scientific Reports, reports evidence that 26 animals regularly in contact with people may be susceptible to infection.

The researchers investigated how the spike protein from SARS-CoV-2 could interact with the ACE2 protein it attaches to when it infects people.

The focus of the investigation was whether mutations in the ACE2 protein in 215 different animals, that make it different from the human version, would reduce the stability of the binding complex between the virus protein and host protein. Binding to the protein enables the

virus to gain entry into host cells; while it is possible the virus might be able to infect animals via another pathway, it is unlikely based on current evidence that the virus could infect an animal if it cannot form a stable binding complex with ACE2.

The researchers found that for some animals, such as sheep and great apes (chimpanzee, gorilla, orangutan, and bonobo, many of which are endangered in the wild), the proteins would be able to bind together just as strongly as they do when the virus infects people. Some of the animals, such as sheep, have not yet been studied with infection tests, so this does not confirm that the animal can indeed be infected.

Lead author Professor Christine Orengo (UCL Structural and Molecular Biology) said "We wanted to look beyond just the animals that had been studied experimentally, to see which animals might be at risk of infection, and would warrant further investigation and possible monitoring.

"The animals we identified may be at risk of outbreaks that could threaten endangered species or harm the livelihoods of farmers. The animals might also act as reservoirs of the virus, with the potential to re-infect humans later on, as has been documented on mink farms."

The research team also performed more detailed structural analyses for certain animals, to gain a better understanding of how infection risks may differ across animal species. By comparing their findings to other experimental data, they set thresholds to predict which animals are at risk of infection, and which ones most likely cannot be infected.

They found that most birds, fish, and reptiles do not appear to be at risk of infection, but the majority of the mammals they reviewed could potentially be infected.

Professor Orengo added "The details of host infection and severity of response are more complex than just the interactions of the spike protein with ACE2, so our research is continuing to explore interactions involving other host-virus proteins."

The team's findings mostly agree with experiments conducted in living animals and with reported cases of infections. They predict possible infection in domestic cats, dogs, mink, lions, and tigers, all of which have had reported cases, as well as ferrets and macaques, which have been infected in laboratory studies.

First author, Su Datt Lam (UCL Structural and Molecular Biology and the National University of Malaysia) said "Unlike laboratory-based experiments, the computational analyses we devised can be run automatically and rapidly. Therefore, these methods could be applied easily to future virus outbreaks that, unfortunately, are becoming more common due to human encroachment into natural habitats."

Co-author Professor Joanne Santini (UCL Structural and Molecular Biology) said "To protect animals, as well as to protect ourselves from the risk of one day catching Covid-19 from an infected animal, we need large-scale surveillance of animals, particularly pets and farm animals, to catch cases or clusters early on while they're still manageable.

"It may also be important to employ hygiene measures when dealing with animals, similar to the behaviours we've all been learning this year to reduce transmission, and for infected people to isolate from animals as well as from other people

‘हेपेटाइटिस सी’ का वायरस खोजने वाले तीन को नोबेल

स्टॉकहोम | एजेसी

इस साल चिकित्सा क्षेत्र का नोबेल पुरस्कार हेपेटाइटिस सी के वायरस की खोज करने वाले तीन वैज्ञानिकों को दिया जाएगा। अमेरिकी वैज्ञानिक हार्वे जे आल्टर, चार्ल्स एम राइस और ब्रिटिश विज्ञानी माइकल हफ्टन का चयन नोबेल समिति ने किया है।

समिति ने सोमवार को कहा, वैज्ञानिकों के अनुसंधान से रक्त से होने

लाखों की जिंदगी बचाई

नोबेल समिति ने कहा कि इन वैज्ञानिकों ने हेपेटाइटिस सी के वायरस को खोजकर दुनिया में लाखों लोगों की जिंदगी बचाई है। **➤ ब्योरा पेज 16**

वाले हेपेटाइटिस संक्रमण के प्रमुख स्रोत की व्याख्या में काफी मदद मिली, जो हेपेटाइटिस ए और बी विषाणुओं द्वारा नहीं की जा सकी थी।