



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Tuesday 20201208

Illness,

66 per cent Covid patients remembered God to cope with illness, says PGI study

Says despite providing psychological support, many patients go on to develop psychological morbidity (The Tribune: 20201208)

<https://www.tribuneindia.com/news/health/66-per-cent-covid-patients-remembered-god-to-cope-with-illness-says-pgi-study-181502>

66 per cent Covid patients remembered God to cope with illness, says PGI study
Photo for representational purpose only.

The Covid-19 patients found myriad ways to cope with the illness and isolated hospital stay, but the most common method used by patients at PGIMER here to handle the disease was remembering God and following religious disciplines.

About two-thirds of the patients reported remembering God (66 %) and praying to God (62 %) helped them to a large extent, revealed a PGI study published in the Asian Journal of Psychiatry.

The study sample comprised 50 patients admitted to the PGI here.

The study has been authored by Dr Swapnajeet Sahoo, Dr Aseem Mehra, Dr Devakshi Dua and Dr Sandeep Grover from the Department of Psychiatry, Dr Vikas Suri and Dr Pankaj Malhotra from Internal Medicine, Dr Lakshmi Narayana Yaddanapudi and Dr GD Puri from the Department of Anaesthesia and Intensive Care Unit.

When asked about the coping methods used during the hospital stay to adapt to the situation and negative emotions, 34 per cent respondents said listening to religious discourses was quite helpful in overcoming negative emotional states during their stay in the hospital.

According to the study, people in India usually turn to God at the time of crisis, and possibly externalising the responsibility to a higher power leads to a reduction in anxiety and distress.

The study suggested that clinicians involved in managing people with COVID-19 infection should carefully evaluate the religious beliefs and practices of the patients, and if they find that the person has been successfully using positive religious coping in the past, they should be encouraged to use the same.

When asked about the change in perspective in life after surviving the COVID-19 infection, almost all of the participants reported an increased 'faith in God' and about one-fourth reported a decrease in their faith in 'power of money'.

Battling depression

The PGI finding also suggested that despite being provided psychological support, about two-fifth (38 %) of the people diagnosed with COVID-19 infection screen positive for anxiety disorder or depression close to their discharge.

“This suggests that going through the experience of COVID-19 infection is very stressful, and despite providing psychological support, many patients go on to develop psychological morbidity,” the study concluded.

“There is a need to follow up the patient with COVID-19 infection, even after discharge to evaluate them for ongoing psychiatric morbidity and manage the same adequately,” it added.

Covid blues

On hearing the news about the diagnosis of COVID-19, about one-sixth patients felt that they were “going to die”.

Upon seeing the healthcare professionals in personal protective equipment, 24 % reported that it felt like they were interacting with aliens, astronauts/space scientists (14 %), or robots (22 %).

Pfizer's COVID-19 vaccine

**Britain gets ready for roll-out of Pfizer's COVID-19 vaccine this week
In total, Britain has ordered 40 million doses — enough to vaccinate 20 million people in the country of 67 million (The Tribune: 20201208)**

<https://www.tribuneindia.com/news/health/britain-gets-ready-for-roll-out-of-pfizers-covid-19-vaccine-this-week-180692>

Britain gets ready for roll-out of Pfizer's COVID-19 vaccine this week
Photo for representational purpose only. Reuters file

Britain is preparing to become the first country to roll out the Pfizer/BioNTech COVID-19 vaccine this week, initially making the shot available at hospitals before distributing stocks to doctors' clinics, the government said on Sunday.

The first doses are set to be administered on Tuesday, with the National Health Service (NHS) giving top priority to vaccinating the over-80s, frontline healthcare workers and care home staff and residents.

Britain gave emergency use approval for the vaccine developed by Pfizer and BioNTech last week - jumping ahead in the global race to begin the most crucial mass inoculation programme in history.

In total, Britain has ordered 40 million doses — enough to vaccinate 20 million people in the country of 67 million.

About 8,00,000 doses are expected to be available within the first week.

Initial doses that have arrived from Belgium are being stored in secure locations across the country, where they will be quality checked, the health ministry said.

The Pfizer/BioNTech vaccine has onerous storage requirements. It needs to be kept at -70C (-94F) and only lasts five days in a regular fridge.

For that reason, the health ministry said the vaccine would first be administered in 50 hospitals. It said it would take a few hours to defrost each vaccine and prepare it for use.

NHS England has written to general practitioners, telling them to get ready to start giving vaccinations through local doctors' services from Dec. 14.

Rather than run clinics in individual surgeries, groups of local doctors will operate more than 1,000 vaccination centres across the country, the government said.

Boxes of the vaccine contain five packs of 975 doses, but special regulatory approval is needed to split them up. A senior medical official has said that while he was hopeful it would be possible to split the packs and deliver straight to care homes, it was not guaranteed.

Britain is among the first nations to roll out vaccinations outside the context of a clinic trial, raising hopes that the tide could soon turn against a virus that has killed nearly 1.5 million people globally and hammered the world economy.

Russia began distributing its Sputnik V COVID-19 vaccine through 70 clinics in Moscow on Saturday, although the shot has not finished its final trials. Reuters

Antiviral drug blocks Covid virus

This antiviral drug blocks Covid virus within 24 hrs: Study (The Tribune: 20201208)

<https://www.tribuneindia.com/news/health/this-antiviral-drug-blocks-covid-virus-within-24-hrs-study-180372>

This antiviral drug blocks Covid virus within 24 hrs: Study

Researchers have discovered that the treatment of SARS-CoV-2 infection (Covid-19) with a new antiviral drug, MK-4482/EIDD-2801 or Molnupiravir, completely suppresses the virus transmission within 24 hours.

According to the study, published in the journal Nature Microbiology, the research team from Georgia State University (GSU) originally discovered that the drug is potent against influenza viruses.

"This is the first demonstration of an orally available drug to rapidly block SARS-CoV-2 transmission. MK-4482/EIDD-2801 could be game-changing," said study author Richard Plemper from GSU.

Because the drug can be taken by mouth, treatment can be started early for a potentially three-fold benefit: inhibit patients' progress to severe disease, shorten the infectious phase to ease the emotional and socio-economic toll of prolonged patient isolation and rapidly silence local outbreaks, "We noted early on that MK-4482/EIDD-2801 has broad-spectrum activity against respiratory RNA viruses and that treating infected animals by mouth with the drug lowers the amount of shed viral particles by several orders of magnitude, dramatically reducing transmission," said Plemper.

"These properties made MK-4482/EIDD/2801 a powerful candidate for pharmacologic control of Covid-19," Plemper added.

In the study, the research team repurposed MK-4482/EIDD-2801 against SARS-CoV-2 and used a ferret model to test the effect of the drug on halting virus spread.

The team believe ferrets are a relevant transmission model because they readily spread SARS-CoV-2, but mostly do not develop severe disease, which closely resembles SARS-CoV-2 spread in young adults.

The researchers infected ferrets with SARS-CoV-2 and initiated treatment with MK-4482/EIDD-2801 when the animals started to shed virus from the nose.

"When we co-housed those infected and then treated source animals with untreated contact ferrets in the same cage, none of the contacts became infected," said study co-author Josef Wolf.

If these ferret-based data translate to humans, Covid-19 patients treated with the drug could become non-infectious within 24 hours after the beginning of treatment.

"MK-4482/EIDD-2801 is in advanced phase II/III clinical trials against SARS-CoV-2 infection," the authors wrote.

WHO

**WHO's Tedros says concerned about perception pandemic is over
Tedros said the pandemic still had a long way to run and that decisions made
by citizens and governments would determine its course (The Tribune:
20201208)**

<https://www.tribuneindia.com/news/health/whos-tedros-says-concerned-about-perception-pandemic-is-over-179986>

WHO's Tedros says concerned about perception pandemic is over
WHO director-general Tedros Adhanom Ghebreyesus. Reuters file

Recent progress on COVID-19 vaccines is positive but the World Health Organisation is concerned this has led to a growing perception that the pandemic has come to an end, WHO Director-General Tedros Adhanom Ghebreyesus said on Friday.

"Progress on vaccines gives us all a lift and we can now start to see the light at the end of the tunnel. However, WHO is concerned that there is a growing perception that the COVID-19 pandemic is over," he said.

Tedros said the pandemic still had a long way to run and that decisions made by citizens and governments would determine its course in the short run and when the pandemic would ultimately end.

"We know it's been a hard year and people are tired, but in hospitals that are running at or over capacity, it's the hardest it can possibly be," he said.

"The truth is that at present, many places are witnessing very high transmission of the COVID-19 virus, which is putting enormous pressure on hospitals, intensive care units and health workers," the WHO chief added.

Britain approved Pfizer Inc's COVID-19 vaccine on Wednesday, jumping ahead of the rest of the world in the race to begin mass inoculations.

The move raised hopes that the tide could soon turn against a virus that has killed nearly 1.5 million people globally, hammered the world economy and upended normal life for billions since it emerged in Wuhan, China, a year ago. Reuters

Covid-19: What you need to know today (Hindustan Times: 20201208)

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

The evidence is anecdotal at the moment, but there would appear to be a mini-boom in tech jobs in Bengaluru, Chennai, and some of the smaller cities in the South that have traditionally been hubs for technology businesses, with many of the new jobs coming from multinational companies that already have a presence in these regions. It is anecdotal, but not counterintuitive.

In a conversation with this columnist in September, ahead of the launch of his book, Netflix CEO Reed Hastings spoke of how his company would try and get people back to work as soon as it was safe to do so because WFH wasn't "as good as being together and talking about things". He added that Netflix wasn't "optimising the culture for the pandemic" and spoke of the challenges of remote work. "We are all coasting on relationships we built before Covid. I think it is very challenging to develop new employees who never get to know us." Hastings said that while in his experience "the physical workplace is superior", this was the case for him, and that "maybe for a 20-year old who grew up on Tinder" the reverse would be true.

I feel exactly the same way, but there are many companies that have discovered the benefits of WFH in the course of this very strange year. At least some of them have decided that a significant portion of their workforce will continue to WFH even after the pandemic. This isn't always driven by the right motives – cost, not quality of life, is a driver in many cases – and there may be a price to pay for it down the line (in terms of organisational or workspace culture, and all that contributes to the business), but WFH is here to stay. This is true in every geography.

Companies that were pioneers in outsourcing work to India – and tech firms are on top of this list by a long distance – are figuring out that if they are anyway going to move to remote working for many of their employees, then they might as well – provided the right kind of people are available – move those jobs in India, where they could be remote, or not.

That could explain the scramble for technology workers in Bengaluru. One technology recruiter I spoke to made it sound like the boom days of the late 1990s and mid-2000s, when technology workers could and would literally walk across the road to their new companies (I wonder what the WFH equivalent of that could be). He might be overstating the intensity, but the trend is clearly there.

It is also becoming clear that this trend could extend well beyond technology. Any work that is currently being done remotely, and which the company believes can continue to be done remotely, is work that is no longer restricted by geography, no matter what might previously have been assumed. All such work (or at least some of it), could move – and all the things that

worked to India's advantage during the first waves of IT and business process outsourcing will likely work for it in this context. That includes a well-educated, technically savvy, English-speaking workforce; excellent connectivity; and lower salaries and cost of living than in most Western nations.

While the anecdotes I have heard have come Bengaluru and Chennai, this is a trend any city with good connectivity, schools, and health care facilities, can leverage to its advantage (readers will notice that I didn't use the more expansive quality-of-life descriptor simply because it is very tough for a city to suddenly improve its).

Urban renewal, in India's current, emerging and aspiring outsourcing hubs should be part of the post-Covid plans of state governments if they want to tap into it.

Covid Cases 20201208)

<http://onlinepaper.asianage.com/article/detailpage.aspx?id=15268924>

City records 1,674 Covid cases, positivity rate dips

New Delhi, Dec. 7: Delhi recorded 1,674 fresh Covid cases on Monday, the lowest in over three months, even as the positivity rate slipped to 3.15 per cent, authorities said.

The positivity rate on Thursday, Friday, Saturday and Sunday had stood at 4.96 per cent, 4.78 per cent, 4.2 per cent and 3.68 per cent, respectively.

These relatively low number of fresh cases came out of 53,207 tests conducted the previous day, according to the latest bulletin issued by the Delhi health department.

Sixty-three fatalities were recorded, pushing the toll in the national capital to 9,706, while the positivity rate dropped to 3.15 per cent, the bulletin said, adding that the average

death rate of the past 10 days stood at 2.14 per cent.

Meanwhile, Delhi health minister Satyendar Jain tweeted about the improved Covid situation, "In a month, positivity declined to 3.15 per cent today from 15.26 per cent on November 7. During the same period, RT-PCR positivity reduced to 6.68 per cent from 30.20 per cent. Lowest positivity in the last 6 months. Steadily Covid cases and positivity are coming down. Hope this will continue. Please observe all precautions."

The active cases tally on Monday dropped to 22,486 from 24,693 the previous day. Delhi recorded 2,706 fresh Covid cases on Sunday. The fall in daily cases here is significant, as it is the lowest since

SIXTY-THREE fatalities were recorded, pushing the toll in the national capital to 9,706, while the positivity rate dropped to 3.15 per cent

August 31, when 1,358 fresh incidences were recorded. The Monday bulletin said that the total number of cases has climbed to 5,93,924, while the recovery rate stood at over 94 per cent.

The number of containment zones in Delhi jumped to 6,292 on Monday from 6,173 on Sunday. The highest single-day spike of 8,593 cases till date was reported on November 11.

Mr Jain on Friday had said if the Covid positivity rate in the national capital

stayed below 4 per cent for five consecutive days, it would indicate that the city has successfully combated the pandemic.

The recent spike in cases had come during the festive season and rising pollution level. While Durga Puja celebrations ended on October 25, Diwali fell on Saturday and Chhath was observed on November 20-21.

The National Centre for Disease Control in a report drafted recently had warned that Delhi needs to be prepared for about 15,000 fresh cases of Covid per day, taking into account the upcoming winter season-related respiratory problems, large influx of patients from outside and festive gatherings. — PTI

Coronavirus vaccines

Transparency is vital: On authorisation of coronavirus vaccines (The Hindu: 20201208)

<https://www.thehindu.com/opinion/editorial/transparency-is-vital-on-authorisation-of-coronavirus-vaccines/article33273494.ece>

Safety and efficacy data must be known before emergency-use authorisation for vaccines. A day after Pfizer sought the Indian regulator's nod for emergency-use authorisation for its mRNA vaccine, the Pune-based Serum Institute of India has approached the regulator for a similar nod for its vaccine, Covishield, developed by Oxford University. Unlike Pfizer, AstraZeneca, which is carrying out the phase-3 trials of the Oxford vaccine in four countries, is yet to secure a nod from any of the regulatory agencies. AstraZeneca recently gave details of the interim safety and efficacy data involving 131 COVID-19 cases in the phase-3 trials in the U.K. and Brazil. But details of the trials in India are not out yet. The unprecedented speed in taking the vaccine from the development stage to approval process in less than a year is remarkable, and perhaps necessitated by the toll the virus has taken on lives and livelihoods. But this is not without cause for concern at a time when governments are putting pressure on regulatory bodies to fast-track the entire process. Lack of transparency about vaccine safety and efficacy does no good in gaining people's confidence and willingness to get vaccinated. While Moderna, Pfizer and AstraZeneca took the extraordinary step of publicly sharing the trial protocol, the time points at which interim analysis of phase-3 trial in India will be carried out for safety and efficacy is unclear. While the U.S. FDA has clearly spelt out at least 50% efficacy and stipulated a median follow-up duration of at least two months after completion of the full vaccination regimen to assess a vaccine's benefit-risk profile for emergency-use approval, no such conditions have been mentioned by the Indian regulatory agency. The phase-3 trial of Covishield began on September 21 and completed the enrolment on November 12.

Prime Minister Narendra Modi announced a few days ago that a vaccine would be available in the next few weeks bringing some cheer in an otherwise desolate scenario. The sooner a vaccine is available, the better it is for everyone, but pushing through an ineffective or unsafe vaccine is worse than not having one. A survey by the London-based Vaccine Confidence Project revealed that though the intent to get vaccinated was 87% in India, 34% respondents were worried about side-effects while 16% were concerned about fast-moving trials. While the Indian government is aware of vaccine hesitancy among a certain section of people, the concerns are best addressed when all stakeholders are transparent at every stage and not by merely sharing guidelines regarding vaccine safety with the States. It is important that those seeking emergency-use authorisation share the safety and efficacy data immediately.

New COVID-19 testing

New COVID-19 testing approach measures patients' immune response for better diagnosis (New Kerala: 20201208)

<https://www.newkerala.com/news/2020/212178.htm>

Researchers from UC San Francisco and the Chan Zuckerberg Biohub (CZ Biohub) have developed a new approach for COVID-19 testing that detects a distinct pattern of immune gene expression in infected individuals.

This type of test could be used as a check against possible errors generated by the standard tests that directly detect the SARS-CoV-2 virus, the scientists said.

In addition, the gene expression patterns seen in COVID-19 patients in the study indicate that, unlike other respiratory viruses, SARS-CoV-2 may suppress immune reactions in the early stages of infection, setting the stage for the virus to spread before patients develop symptoms.

The immune response to respiratory infections is largely responsible for symptoms like fever, nasal congestion and cough, which might typically encourage someone to isolate and seek testing. Because people with COVID-19 are most infectious early in their disease course, this suppressed immune response in COVID's first stages makes it more likely that individuals will infect others before they realize they are sick.

The leaders of the new study, published online in Nature Communications on November 17, 2020, say that although the new testing approach analyzes completely different molecules -- from the person infected, rather than from the virus that infects the person -- it can be implemented using the same PCR technology on the same nasal swab samples. It could be used as a standalone test, or even combined into the same testing panels used in standard PCR tests to detect the virus. Combining the technologies could lessen the chances of false negative or false positive results, the researchers said.

"Without even having to detect the virus itself, these tests to measure changes in the expression of immune-related genes can determine whether or not someone has COVID-19," said co-senior study author Chaz Langelier, MD, PhD, assistant professor in the Division of Infectious Diseases in the UCSF Department of Medicine, who led the research with Amy Kistler, PhD, of CZ Biohub.

The UCSF scientists created three proof-of-concept versions of the new test -- one based on readouts of gene activity from three key genes, one based on readouts from 10 genes, and one based on 27 genes. The tests independently detected COVID-19 infection in clinically confirmed cases, increasing in sensitivity with the number of genes included.

Langelier envisions using one of these measures of gene activation both to flag false negative viral PCR tests, in which direct viral detection fails, and to rule out false positive results, which may arise from cross-contamination between samples in testing labs. False positives become an increasing challenge when performing routine testing of people without symptoms in populations with relatively few cases. Even adding just a few genes to the currently used virus-detecting tests could greatly improve accuracy, he said.

To determine which changes in gene activity were distinctive to SARS-CoV-2 infection the researchers first surveyed all the genetic material in swab samples from the upper respiratory tract, so that they could identify the most important and predictive indicators.

"We used a 'metagenomic' approach -- from each sample we sequenced all the genetic information, both from the patient and from any microbes present," said Eran Mick, PhD, bioinformatics scientist at UCSF and CZ Biohub, a first author of the study along with the Biohub's Jack Kamm, PhD. "We looked both at the microorganisms and at human gene expression, as measured by levels of RNA that has been transcribed from switched-on genes."

The researchers examined samples from patients with respiratory symptoms who were tested for COVID-19 as a possible explanation of their illness. The tests showed many of the patients did have COVID-19, but some of them turned out to be infected with more common respiratory viruses (like the flu) or to be suffering from nonviral conditions.

"In samples from COVID-19 patients we initially expected to find a large activation of genes that drive pro-inflammatory pathways, given how horrible we know this virus can be," Mick said. "We were surprised that it turned out to be the opposite. Some inflammatory pathways that were activated by other viruses were not in fact activated in COVID-19."

With computer algorithms and a great deal of number crunching, the UCSF scientists were able to identify a distinct pattern of gene expression associated with a tamping down of specific immune responses that occurs early during SARS-CoV-2 infection. The changes differed from those seen in other viral respiratory infections or nonviral respiratory illnesses, allowing for a specific diagnosis of COVID-19.

The pattern of immunosuppressive gene expression the researchers identified in COVID-19 may explain the stealthy nature of this highly transmissible virus, the researchers said. Unlike the first SARS-CoV virus, which caused global concern and killed hundreds in 2002 and 2003, SARS-CoV-2 appears to be most transmissible before the onset of symptoms, or just as symptoms first arise, making it more likely that individuals will infect others before they realize they are sick.

"We have concluded from our work that there is an immunosuppressive effect taking place that prevents symptoms from developing early during infection despite high levels of viral replication," Langelier said. "It's a brilliant strategy, if you're a virus."

However, as is now well known, in a subset of COVID-19 patients, after the virus makes its way down the respiratory tract and infects cells within the lungs, the immune system eventually launches an overly aggressive response that damages the patient's own tissues. Intensive-care treatment aims to counter this often-deadly immune reaction, but that does not mean early immunosuppressive treatment would result in better outcomes.

"Our findings of a diminished inflammatory response by the innate immune system suggest that treatments that suppress the immune system early during COVID-19 infection are unlikely to be beneficial," Langelier said. "The medical community already knows from the RECOVERY study that the immunosuppressive steroid drug dexamethasone benefits patients with severe disease, but for those with mild disease there was a trend toward worse outcomes with treatment."

The Nature Communications study was based on analysis of one early time point during the course of infection, and patient outcomes were unknown. But the UCSF researchers also are participating in the multicenter, prospective, observational COMET study of patients hospitalized with COVID-19, in which samples are collected throughout the course of the disease, and clinical progression and disease outcomes are tracked.

It may be that changing patterns of gene activation affecting the immune system could help predict which individuals are most likely to experience severe illness as a result of COVID-19 infection. The research might also lead to the identification of new targets for treatment and new therapeutic strategies.

"Especially with the multiple approaches being taken by the many researchers who are participating in the nationwide study, I think it's possible that we may find predictors of severe disease that are clinically actionable," Langelier said.

Mediterranean diet

Mediterranean diet cuts risk of heart attack: Study (New Kerala: 20201208)

<https://www.newkerala.com/news/2020/211937.htm>

The Mediterranean diet which is high in vegetables, whole grains, fish and olive oil, not only helps you lose weight but may also help reduce the risk of having another heart attack.

The study, published in the journal PLOS Medicine, compared the effects of two different healthy diets on the endothelium, the walls that cover the arteries.

"We observed that the Mediterranean diet model induced better endothelial function, meaning that the arteries were more flexible in adapting to different situations in which greater blood flow is required," said study author Jose Lupez Miranda from the University of Cordoba in Spain.

"Besides, the endothelium's ability to regenerate was better and we detected a drastic reduction in damage to the endothelium, even in patients at severe risk," Miranda added.

According to the researchers, 1,002 patients who had previously had an acute myocardial infarction took part in the study and were monitored over the course of a year.

The research group had previously worked on a similar study with healthy patients, however, this is the first time it has been done with ill patients, who are more likely to have other heart attacks.

"The degree of endothelial damage predicts the occurrence of future cardiovascular events, as in acute myocardial infarctions," Miranda said.

"If we can take action at the initial stages, prompting endothelium regeneration and better endothelial function, we can help to prevent heart attacks and heart disease from reoccurring", Miranda explained.

During the study, half of the patients were told to follow a Mediterranean diet, based on using plenty of virgin olive oil, eating fruit and vegetables every day, and having three servings of legumes, three of fish and three of nuts a week.

In addition, they were told to cut down on eating meat, especially red meat, and to avoid additional fats such as margarine and butter as well as food that is high in sugar.

In contrast, the other group was told to follow a low-fat diet, based on limiting all kinds of fat, both animal and plant, and increasing their intake of complex carbohydrates.

They were told to cut down on red meat, to choose low-fat dairy products, to avoid eating nuts and to reduce their intake of sweets and pastries.

The findings showed the benefits of the Mediterranean diet. In patients with heart disease, the diet is helping them to reduce the likelihood of having another heart attack.

Boost immune response

Study reveals potential cancer therapy may boost immune response (New Kerala: 20201208)

A new approach to cancer therapy shows potential to transform the commonly used chemotherapy drug gemcitabine into a drug that kills cancer cells in a specialised way, activating immune cells to fight cancer, according to a study led by Cedars-Sinai Cancer investigators.

The findings, made in human and mouse cancer cells and laboratory mice, were published in the peer-reviewed journal Nature Communications.

The investigators discovered that when they added the Food and Drug Administration-approved anti-inflammatory medication celecoxib (Celebrex) to gemcitabine chemotherapy, it

converted gemcitabine from a non-immunogenic drug-unable to activate a patient's own immune response-to an immunogenic drug, which triggered the immune response in the mice. The combination of drugs delivered a "one-two punch" of killing tumor cells and activating immune cells, said Keith Syson Chan, PhD, a Cedars-Sinai Cancer translational scientist and corresponding author of the study. Kazukuni Hayashi, PhD, is the first author.

"I believe that our study has significant clinical potential, as cancer immunotherapy continues to emerge as an important pillar for treating cancer patients," Chan said. "This discovery, if confirmed in clinical trials, may potentially increase the percentage of patients who respond to cancer immunotherapy."

Currently, about 70 per cent to 85 per cent of patients taking immunotherapy drugs fail to respond to them, he added.

Since the 1940s, the main treatment for killing cancer cells has involved chemotherapy drugs, which kill the cells directly. But many of the current drugs fail to induce the most efficient form of cell death, known as "immunogenic" cell death, which activates the release of a protein called a "go" or "danger" signal.

The "go" signal prompts immune cells-called dendritic cells-to spur T cells to eradicate tumors. Instead, most current chemotherapies for pancreatic, bladder, breast, ovarian and non-small cell lung cancers not only are non-immunogenic-they suppress the immune system.

In recent years, immunotherapy drugs have been added to chemotherapy regimens, or used alone, to help a patient's own immune cells attack cancer, but the response rate is low.

Certain chemotherapy drugs such as gemcitabine do kill cancer cells and release the "go" signal for an immune response. Scientists, therefore, have believed that those drugs are immunogenic. That is not entirely the case, though, Chan said.

In a surprise discovery, the study investigators-from Cedars-Sinai, Baylor College of Medicine in Houston, and Taipei Medical University in Taiwan-found that while gemcitabine does release the "go" signal, it also prompts the release of an inhibitory signal, or brake, that stops dendritic cells from activating cancer-killing T cells. If the brake is on, "the T cells don't go anywhere," Chan explained. It is necessary, therefore, to find a balance between the "go" and "brake" signals to prompt an effective immune response.

The solution to that balance, the investigators discovered, is the anti-inflammatory drug celecoxib, which removed the brake so that only the "go" signal remained. The dendritic and T cells then were better able to perform their immune responses. Gemcitabine was transformed into an immunogenic drug.

"Rather than focusing on stepping down harder on the gas pedal-releasing proteins that are "go" signals-we removed the impeding brake pedal, allowing the dendritic cells to induce T cells to kill tumors," Hayashi said.

Chan and Hayashi said they believe that the immune response will perform even better with an immunotherapy drug added to a gemcitabine and celecoxib treatment regimen. A study is underway in Chan's lab to test that hypothesis. They look forward, they said, to testing the

efficacy of the new treatment in randomized, placebo-controlled human trials in collaboration with their Cedars-Sinai clinical colleagues.

"Harnessing the patients' immune system to attack patients' tumor cells has become an important tool for physicians treating cancer," said Dan Theodorescu, MD, PhD, director of the Cedars-Sinai Cancer enterprise. "Unfortunately, our current efforts fail in a significant number of patients. This study unveils at least one potential mechanism explaining these failures, and more importantly, provides a potential solution."

Breast cancer

Obesity contributes to 40 pc mortality gap between black and white women with early breast cancer (New Kerala: 20201208)

<https://www.newkerala.com/news/2020/211873.htm>

In an analysis of women with early breast cancer, black women had higher rates of obesity and other health conditions that can affect survival, compared with white women.

The findings are published early online in *CANCER*, a peer-reviewed journal of the American Cancer Society (ACS).

Obesity is a known risk factor for various cancers, and its rise over the past few decades has contributed to a rise in breast cancer rates that is greater in Black women than white women.

At the same time, as breast cancer mortality rates have declined, the decline has been less pronounced in black women, producing a 40 per cent mortality gap.

To investigate further, Kirsten Nyrop, PhD, of the University of North Carolina at Chapel Hill, and her colleagues analysed information concerning 548 patients treated at their hospital for early breast cancer.

The team found that 62 per cent of black patients and 33 per cent of white patients fell within the obese weight range, and higher percentages of black women had obesity-related comorbidities, such as hypertension, diabetes, and high cholesterol than white women.

Yet, despite significant differences in the prevalence of obesity and comorbidities, there were no differences between black and white patients in treatment decisions with regard to type of surgery, chemotherapy, radiation, or endocrine therapy.

"Early breast cancer is highly treatable, and survival rates have improved steadily due to treatment advances and early detection through mammograms; however, the high rates of obesity, overall comorbidities, and obesity-related comorbidities observed among women with

early breast cancer--especially among black women--can contribute to disparities in overall survival of these patients," said Dr Nyrop.

"Findings from this study need to be considered within the larger context of the cancer-obesity link and the disparate impact of the obesity epidemic on communities of colour in the United States," added Dr Nyrop.

Dr Nyrop noted that rates of many cancers that are impacted by obesity are higher in Black women as are rates of numerous obesity-related conditions such as diabetes and hypertension.

"As the COVID-19 pandemic has glaringly underscored, there is an urgent need to address the systemic and socioeconomic aspects of obesity that disproportionately affect minority communities in the US if we are to reverse health disparities," added Dr Nyrop.

An accompanying editorial stresses that clinicians should "take advantage of the breast cancer diagnosis as an opportunity for interventions that can be far-reaching."

The authors note that several lifestyle interventions can not only address obesity but also potentially prolong survival in patients with cancer.

Infection (Hindustan: 20201208)

https://epaper.livehindustan.com/imageview_497910_86006326_4_1_08-12-2020_3_i_1_sf.html

वर्धमान महावीर मेडिकल कॉलेज के शोध में पॉजिटिव-निगेटिव रोगियों में सभी लक्षण एक जैसे मिले लक्षणों के आधार पर कोरोना रोगियों की पहचान असंभव

नई दिल्ली | मदन जैड़ा

लक्षणों के आधार पर कोरोना के रोगियों की पहचान मुश्किल ही नहीं बल्कि नामुमकिन है। एपिडेमोलॉजी इंटरनेशनल जर्नल में प्रकाशित एक शोध में यह दावा किया गया है। दिल्ली के एक अस्पताल में हुए इस शोध में कहा गया है कि कोरोना निगेटिव एवं पॉजिटिव रोगियों के लक्षण एक समान थे।

दिल्ली के वर्धमान महावीर मेडिकल कॉलेज के कम्युनिटी विभाग के निदेशक प्रोफेसर जुगल किशोर के नेतृत्व में हुए शोध में



दक्षिणी दिल्ली के एक अस्पताल में भर्ती कोरोना के पॉजिटिव एवं निगेटिव रोगियों पर यह अध्ययन किया गया। इस अध्ययन में 103 पॉजिटिव और 103 निगेटिव लोगों

संपर्क से अनुमान संभव

इस अध्ययन में किसी व्यक्ति के कोरोना मरीज होने के संदेह की पुष्टि करने वाला तथ्य पेशा और संपर्क का है। यदि लक्षण वाले किसी व्यक्ति की हिस्ट्री कोरोना मरीज के संपर्क में आने की है या वह स्वस्थ पेशेवर है तो अनुमान लगा सकते हैं कि लक्षण पाए जाने पर वह संक्रमित हो सकता है।

को शामिल किया गया। इस शोध में पाया गया कि दोनों ही समूहों में बुखार, कमजोरी, खांसी, नाक बहना, सांस लेने में तकलीफ, डायरिया, मांसपेशियों में दर्द, उल्टी

टेस्ट कराना अनिवार्य

यह शोध कोरोना महामारी के उपचार के मामले में टेस्ट की अनिवार्यता को दर्शाता है। आमतौर पर जब कोई बीमारी अस्तित्व में आ जाती है तो लक्षणों के आधार पर उसका उपचार शुरू कर दिया जाता है। लेकिन कोरोना के मामले में ऐसा होता नहीं दिखाई दे रहा है।

होने, सिर दर्द और भ्रम के लक्षण पाए गए थे। इतना जरूर था कि कोविड-19 पॉजिटिव लोगों में ये लक्षण ज्यादा थे और निगेटिव मरीजों में ऐसे लक्षण अपेक्षाकृत कम पाए गए।

