



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Thursday 20220623

डायबिटीज

डायबिटीज रोगियों के लिए खतरनाक है ये स्थिति, बढ़ सकती है परेशानी! ऐसे करें पहचान
(Hindustan: 20220623)

<https://www.livehindustan.com/lifestyle/health/story-low-blood-sugar-level-early-symptoms-hypoglycemia-symptoms-to-notice-6680380.html>

शरीर के स्वस्थ रहने के लिए ब्लड शुगर लेवल का सामान्य बने रहना बहुत आवश्यक है। इसका बढ़ना या घटना, दोनों ही स्थितियां हानिकारक होती हैं इसलिए डॉक्टर्स ब्लड शुगर लेवल को सामान्य रखने की सलाह देते हैं।

शरीर के स्वस्थ रहने के लिए ब्लड शुगर लेवल का सामान्य बने रहना बहुत आवश्यक है। इसका बढ़ना या घटना, दोनों ही स्थितियां हानिकारक होती हैं। एक तरफ जहां ब्लड शुगर का बढ़ा हुआ स्तर शरीर के लिए काफी गंभीर समस्याएं पैदा कर सकता है तो वहीं, इसका कम हो जाना भी काफी खतरनाक है। यही कारण है कि स्वास्थ्य विशेषज्ञ ब्लड शुगर लेवल को सामान्य रखने वाले उपाय करते रहने की सलाह देते हैं। शुगर लेवल बढ़ने को हाइपरग्लाइसीमिया जबकि इसके कम होने की स्थिति को हाइपोग्लाइसीमिया कहा जाता है।

दिखें ऐसे लक्षण तो हो जाएं सावधान

आमतौर पर यह दिक्कत उन लोगों को ज्यादा होती है जो शरीर में इंसुलिन के स्तर को बढ़ाने के लिए दवाइयां ले रहे होते हैं। हाइपोग्लाइसीमिया एक गंभीर स्थिति है। समय पर इसका पता ना चल पाने के

कारण रोगी कोमा में भी जा सकता है इसलिए डायबिटीज रोगियों को नियमित रूप से ब्लड शुगर की जांच करने की सलाह दी जाती है। दरअसल, लोगों को यह पता ही नहीं चल पाता है कि उनके ब्लड शुगर का स्तर गिर रहा है। ऐसे में डायबिटीज रोगी और उनके परिवारजनों को इन लक्षणों के बारे में सचेत रहना चाहिए। यदि मधुमेह रोगी में अचानक ऐसे लक्षण दिखें तो उसे तुरंत डॉक्टर के पास लेकर जाएं।

- चिंता या घबराहट

- अचानक से बहुत अधिक पसीना आना

- त्वचा का पीला पड़ जाना

- दिल की धड़कन का अनियमित या तेज हो जाना।

- चक्कर आना और दांत बैठने लगना।

- धुंधला दिखाई देना।

लक्षण दिखने के तुरंत बाद क्या करें?

किसी भी व्यक्ति में हाइपोग्लाइसीमिया के लक्षण दिखते ही उसे तुरंत कार्बोहाइड्रेट युक्त चीजें देनी चाहिए और साथ ही शुगर लेवल की भी जांच करें। यदि यह 70 मिलीग्राम प्रति डेसीलीटर की मात्रा से कम है तो रोगी को तुरंत 15-20 ग्राम फास्ट-एक्टिंग कार्बोहाइड्रेट दें। ग्लूकोज की गोलियां या जेली, फलों का रस, शहद या मिश्री देने से शुगर बढ़ सकता है। ध्यान रहे कि कार्बोहाइड्रेट की मात्रा नियंत्रित होनी चाहिए क्योंकि इसकी मात्रा बढ़ जाने से शुगर का स्तर अचानक से बहुत अधिक हो सकता है, जो अन्य समस्याओं का कारण बन सकता है। इस प्रारंभिक उपचार के उपायों के साथ तुरंत रोगी को डॉक्टर के पास ले जाएं।

कोरोना

सिर्फ खांसी-बुखार में न उलझें, सबसे ज्यादा हालत खराब कर रहे कोरोना के ये 6 'साइलेंट' लक्षण (Navbharat Times: 20220623)

<https://navbharattimes.indiatimes.com/lifestyle/health/during-covid-4th-wave-experts-warn-against-6-serious-and-silent-symptoms-of-coronavirus/articleshow/92401320.cms?story=6>

Covid serious symptoms: कोरोना के आम लक्षणों में बुखार, खांसी, सांस की कमी, नाक बहना, सूंघने की क्षमता कम होना और पेट से जुड़ी समस्याएं आदि शामिल हैं। लेकिन कुछ ऐसे साइलेंट लक्षण भी हैं, जिनका सभी को पता नहीं चल पा रहा है।

कोरोना वायरस महामारी (Coronavirus pandemic) का प्रकोप तेजी से बढ़ रहा है। भारत सहित दुनिया के अधिकतर देशों में कोरोना के चौथी लहर (Covid 4th wave) ने तबाही मचाई हुई है। देश में रोजाना करीब 12 हजार नए मामले सामने आ रहे हैं। पिछले एक हफ्ते में नए मामलों की संख्या एक लाख के करीब पहुंच गई है। बेशक चौथी लहर के दौरान कोरोना के इतने गंभीर लक्षण नहीं हैं लेकिन इस बार ओमीक्रोन (Omicron) जैसे कोरोना के जो वेरिएंट्स मिले हैं, उनमें तेजी से संक्रमण फैलाने की क्षमता है।

कोरोना के वेरिएंट्स बदलने से इसके लक्षणों में भी तेजी से बदलाव हुआ है। अब सिर्फ खांसी या बुखार कोरोना के लक्षण नहीं रह गए हैं। कोरोना वायरस शरीर के हर अंग को प्रभावित कर रहा है और यही वजह है कि मरीजों में अजीबोगरीब लक्षण भी देखे जा रहे हैं। चिंता की बात यह है कि कुछ लक्षण मरीजों को ठीक होने के बाद भी कुछ दिन हफ्ते नहीं, बल्कि महीनों या सालों तक परेशान कर रहे हैं।

कोरोना के आम लक्षणों में बुखार, खांसी, सांस की कमी, नाक बहना, सूंघने की क्षमता कम होना और पेट से जुड़ी समस्याएं आदि शामिल हैं। लेकिन कुछ ऐसे साइलेंट लक्षण भी हैं, जिनका सभी को पता नहीं चल पा रहा है। दुर्भाग्य यह है कि यह लक्षण आम बीमारियों से मिलते-जुलते हैं, जिस वजह से समय पर इनकी पहचान करना और इलाज कराना संभव नहीं हो पा रहा है।

चक्कर आना

कोरोना वायरस शरीर के सभी अंगों को प्रभावित कर रहा है। मरीज ठीक होने के बाद भी कमजोरी जैसे लक्षण महसूस कर रहे हैं। चक्कर आना कोरोना का एक गंभीर लक्षण हो सकता है। एक्सपर्ट्स का

मानना है कि इसमें मरीज जब वे चलने के लिए खड़े होते हैं, तो वे गिर जाते हैं और खुद को बुरी तरह से घायल कर लेते हैं।

उदास और चिंतित रहना

कैसर हेल्थ रिपोर्ट के अनुसार, कोरोना वायरस के कारण लोगों में उदासीनता या चिंता जैसे लक्षण पैदा हो सकते हैं। यह लक्षण उन लोगों में अधिक देखने को मिल सकते हैं, जिन्हें परिवार के सदस्यों से अन्य आवश्यक जरूरतों के लिए उतनी मदद नहीं मिल रही है, या जो दूर हैं।

सोचने-समझने की क्षमता कम होना

कोरोना वायरस का दिमाग पर गहरा असर पड़ रहा है, खासकर बुजुर्गों में। कोरोना से पीड़ित लोगों में सोचने-समझने या दिमाग से जुड़ी अन्य समस्याएं हो सकती हैं। अगर आपको कोरोना हुआ है तो यह लक्षण आपको लंबे समय तक भी परेशान कर सकता है। बेहतर है कि आप किसी बेहतर डॉक्टर से मिलकर इस मुद्दे को सुलझाने की कोशिश करें।

भूख नहीं लगना

भूख नहीं लगना बेशक कई स्वास्थ्य समस्याओं का संकेत है लेकिन कोरोना होने पर मरीजों में यह लक्षण देखा जाता है। वास्तव में कोरोना वायरस इम्यून सिस्टम को कमजोर कर देता है जिससे मरीजों को भूख नहीं लगती है। यही वजह है कि एक्सपर्ट्स इम्यून सिस्टम को मजबूत बनाने के लिए हेल्दी डाइट लेने और अन्य तरीके आजमाने की सलाह दे रहे हैं।

ज्यादा नींद आना

अगर आपके परिवार में कोई बुजुर्ग या अन्य लोग सामान्य से अधिक सो रहा है, तो यह कोरोना वायरस का एक असामान्य लक्षण हो सकता है। इसे लेकर स्विट्ज़रलैंड में लॉज़ेन हॉस्पिटल ने कोरोना के रोगियों में लक्षणों पर शोध किया। उन्होंने पाया कि कोरोना से पीड़ित लोगों को बहुत ज्यादा थकान और सुस्ती महसूस होती है।

उलझन या विचलित रहना

कैसर हेल्थ की रिपोर्ट में बताया गया है कि कोरोना से पीड़ित लोगों को कई दिमागी समस्याएं हो सकती हैं जिनमें उलझन या विचलित रहना भी शामिल है। खासकर यह लक्षण बुजुर्गों में अधिक देखने को मिल सकता है।

डिस्क्लेमर: यह लेख केवल सामान्य जानकारी के लिए है। यह किसी भी तरह से किसी दवा या इलाज का विकल्प नहीं हो सकता। ज्यादा जानकारी के लिए हमेशा अपने डॉक्टर से संपर्क करें।

Long COVID still a risk, even for vaccinated people (Medical News Today: 20220623)

<https://www.medicalnewstoday.com/articles/long-covid-still-a-risk-even-for-vaccinated-people>

COVID-19 vaccines can lower the risk of death by 34% and long COVID by 15% compared to the unvaccinated with SARS-CoV-2 infections, a new study has found.

The researchers also observed that vaccines have been remarkably effective in fending off some of the worst long COVID symptoms, including lung and blood-clotting disorders.

However, the researchers also found that mild breakthrough COVID-19 infections can trigger lingering, severe symptoms of long COVID even in vaccinated people.

Experts say these findings highlight the need for new vaccines and ongoing safety protocols beyond immunizations to help prevent long COVID.

All data and statistics are based on publicly available data at the time of publication. Some information may be out of date. Visit our coronavirus hub for the most recent information on the COVID-19 pandemic.

Long COVID can cause persistent COVID-19 symptoms including loss of smell, fatigue, mood changes, and brain fog in addition to disorders of the heart, kidneys, and lungs. These symptoms emerge or continue at least one month after a SARS-CoV-2 infection.

It is estimated that 7.7 to 23 million Americans may have developed long COVID, a condition also called post-acute COVID or chronic COVID.

A study at the Washington University School of Medicine in St. Louis and the Veterans Affairs St. Louis Health Care System suggests that vaccination alone may not be enough to stop breakthrough COVID-19 infections Trusted Source and prevent long COVID.

Dr. Ziyad Al-Aly, a clinical epidemiologist at Washington University and lead author of the study, said: “Vaccinations remain critically important in the fight against COVID-19 [...] But vaccines seem to only provide modest protection against long COVID.”

The findings appear in Nature Medicine Trusted Source.

Filling the knowledge gap

Al-Aly and his co-authors set out to confirm whether breakthrough SARS-CoV-2 infection (BTI) can also lead to long COVID complications among vaccinated people between one to six months after infection.

They studied data on almost 34,000 people with BTI, based on the U.S. Department of Veterans Affairs' national healthcare records. The data spanned from January to October 2021.

An individual was considered to have a BTI by having tested positive for SARS-CoV-2 at 14 days after having received one dose of the Johnson & Johnson/Janssen vaccine or two doses of the Pfizer BioNTech or Moderna vaccines.

The team compared this information with that of almost 5 million people from the same healthcare database who did not develop COVID-19 during the same period. Almost 5 million people made up this contemporary control group.

Higher mortality risk

In an interview with Medical News Today, Dr. Al-Aly explained that studying the control group helped ensure that the long COVID symptoms observed weren't due to undetected, pre-existing conditions.

Compared to the control group, people who survived the first 30 days of a breakthrough infection were 1.75 times more likely to die than if they did not develop COVID-19.

Those in the BTI group also had a greater risk of developing at least one post-acute disorder.

However, results also confirmed that COVID-19 vaccines provide protection. When comparing BTI to unvaccinated individuals who had SARS-CoV-2 infections, the results indicated that COVID-19 vaccines can lower the risk of death by 34% and long COVID by 15%.

The study's significance

The current study is among the first to assess the risks of breakthrough infections and long COVID on a large scale.

It also used data from the largest national integrated healthcare database in the U.S., the Department of Veterans Affairs.

The co-authors acknowledge a few limitations, though. The groups analyzed did not include people who may have had a SARS-CoV-2 infection but were not tested.

Most of the patients studied were older, white males. However, the data analyzed included participants from diverse age groups and races and included over 1.3 million female participants.

Understandably, the study did not consider Omicron variants that started spreading after the study period ended. According to Dr. Al-Aly, though, the vaccines work against all current variants.

Although data on booster shots were unavailable at the time of the research, Dr. Al-Aly told MNT that the team's study is ongoing, and they are quite interested in exploring the role of boosters.

MNT also discussed this study with Dr. Margaret Liu, chair of the board of the International Society for Vaccines, who was not involved in the research.

Dr. Liu noted that the many unknowns and differing scientific perspectives make it challenging to interpret the data.

“One of the challenges for interpreting any data is that the strains circulating now clearly are different in terms of infectivity than are earlier strains—i.e., those circulating when published studies were done, just based on the speed with which new strains have made inroads, and the length of time needed for such studies and then publication,” she said.

Prevention beyond vaccines

MNT also discussed this study with Dr. Joseph A. Roche, an associate professor in health sciences at Wayne State University, who was also not involved in the research.

Dr. Roche agreed that vaccines do not replace other risk reduction methods for COVID-19. He pointed to a paper he authored which urges “continued nonpharmacological risk-reduction measures [...] to complement vaccination efforts.”

In his research, he cited mathematical models which predicted that such measures should stay in place for a year, even after the population reaches ideal vaccination levels.

Dr. Roche also noted that his stance aligns with the World Health Organization Trusted Source's “repeated warnings against premature abandonment of risk-reduction measures.”

Dr. Liu agreed.

“[...]A big reason that I and other physicians are still being so careful to still mask and to avoid as much as possible situations of exposure [...] is that prevention of any COVID-19 infection is still the best strategy to avoid long-haul COVID. I also don't want to be a vector for other people who may have higher risks,” she said.

“[T]he moral of the story here is that vaccination is not really a complete shield from long COVID [...] From a public health perspective, I think we as a nation need to figure out additional layers of protection in the form, maybe, of new vaccines [that are] specifically tailored to reduce the risk of long COVID.”

— Dr. Ziyad Al-Aly

Vitiligo

Vitiligo: Oral, laser, surgical treatment for leukoderma or white leprosy (Hindustan Times: 20220623)

<https://www.hindustantimes.com/lifestyle/health/vitiligo-oral-laser-surgical-treatment-for-leukoderma-or-white-leprosy-101655959018034.html>

No, vitiligo is not caused by eating incorrect foods at wrong times, such as drinking milk right after eating fish. Here's all you need to know about the autoimmune disorder, sometimes known as 'leukoderma' or white leprosy and its treatment like topical, surgical, laser or other alternatives

Vitiligo, sometimes known as 'leucoderma' or white leprosy, is an autoimmune disorder in which the body's immune system targets healthy cells which produce pigment causing damage to the body. Melanocytes are the cells that produce the skin pigment melanin, which gives your skin its colour and when the melanocytes die, these white patches develop.

While the spread of white spots can be slow in some cases, it can be rapid in other cases and white patches can be found on the face, wrists, hands and other parts of the body. Health experts have debunked myths including that vitiligo is caused by eating the incorrect foods at the wrong times, such as drinking milk right after eating fish or that persons with vitiligo are mentally impaired or vitiligo is contagious and incurable.

In an interview with HT Lifestyle, Dr Sanjeev Gupta, Professor and Head, Deptt of Dermatology at MM Institute Of Medical Sciences And Research Mullana Ambala India, shared “There are several myths associated with vitiligo that contribute to the social stigma which has restricted and hindered an individual's usual style of living as well as his or her involvement into society. Individuals with vitiligo suffer from low self-esteem, lack of confidence, and social anxiety, especially if their vitiligo affects parts of the skin that are difficult to conceal with clothes or with cosmetics/ makeup. Therefore, anxiety or depression symptoms should be recognised as soon as possible, and experienced dermatologists should be consulted. Also, counselling sessions should be held frequently in order to increase the patient's confidence level.”

There are various topical, surgical, laser and other alternative methods available to treat vitiligo in recent years as with medical advancement, vitiligo treatment options have recently expanded, making the disease more manageable. However, rather than depending on home cures, it is critical that a patient consults a board certified dermatologist at the appropriate time as this will aid in the proper diagnosis of vitiligo and the arrest of further progression of disease.

The treatment approach of an individual is determined by several aspects such as the kind of vitiligo and the extent of involvement of the body surface area. According to Dr Rohit Batra, Dermatologist and Vitiligo Expert at New Delhi's Sir Ganga Ram Hospital, listed that medical treatments for vitiligo includes:

- Oral and Topical Steroids
- Topical Calcineurin Inhibitors
- Oral JAK inhibitors
- Oral Immunosuppressive agents
- Narrow Band UVB
- Excimer Laser
- Topical and Oral PUVA

Dr Batra pointed out that the above options may not work well in all patients. So, in few cases the surgical options may be required like -

1. Suction Blister Epidermal Grafting: The method is used to treat a small area of a person's body affected by vitiligo. The skin is separated by vacuum pressure and is transplanted on vitiligo patch. The colour-pigmented skin is applied to the white spots.
2. Melanocytes Cell Suspensions: The white areas are covered without being cut in this method. The skin pigment from a normal portion of the body is extracted and transformed as a liquid, which is then injected into the white patched area of the skin.
3. Melanocyte Culture: Following a skin biopsy, a small section of the skin is cultivated in a specialized laboratory before being grafted into the afflicted area”.

Dr Sanjeev Gupta suggested, “If you notice white patches on your skin, don’t ignore it. Visit a skilled dermatologist for an examination. Treatment is more effective when only a small area of skin is affected. Increasing awareness about vitiligo with correct flow of information is also very important. So, don't have a negative opinion of your friend or co-worker because it could affect the lives of a lot of people. The difference will be made by a modest amount of care, concern and sensitivity.”

Digital eye strain

Want to prevent or reduce digital eye strain? Try these 4 tricks (Hindustan Times: 20220623)

<https://www.hindustantimes.com/lifestyle/health/want-to-prevent-or-reduce-digital-eye-strain-try-these-4-tricks-101655952206841.html>

To get respite from digital eye strain and alleviate various disorders, eye yoga can be extremely effective. Practising it can bring immense benefits and facilitate the normal functioning of the eyes. Here are 4 eye exercises to improve the overall functioning of the eyes.

In the age of technological innovations, the use of digital devices among kids, teenagers and adults has increased significantly and the use of digital devices was further exacerbated by the Covid-19 pandemic as people shifted to remote work and children had to spend more time on their mobile or computer, thanks to online classes, which has led to a significant rise in digital eye strain as the short high energy waves emitted by the digital devices can penetrate the eyes and eventually contribute to retinal cell damage. This makes an individual further vulnerable to different eye issues ranging from age-related macular degeneration (AMD) to dry eyes.

According to a recent study in the Indian Journal of Ophthalmology involving 217 students, 109 students were suffering from digital eye strain and among them, 26% were mild cases, 13% were moderate cases and 11% were severe grades with common symptoms being headache and itching. However, health and fitness experts insist that to get respite from digital eye strain and alleviate various disorders, eye yoga can prove to be extremely effective.

In an interview with HT Lifestyle, Dr Labdhi Shah, MS Ophthalmologist and Neuro-Ophthalmologist at Ahmedabad's Eyeconic Eye Clinic, shared, "Eye yoga usually involves eye movements that can condition and strengthen the muscles of the eyes. Practising eye yoga over a period of time can bring immense benefits to a practitioner and can facilitate the normal functioning of the eyes."

He revealed 4 eye yoga poses which can be practised to reduce digital eye strain as well as improve the overall functioning of the eyes:

1. Follow 20-20-20 Rule

Method - Take a break for 20 seconds. Look at something 20 feet away. Do it in every 20 minutes.

2. Palming

Method - Sit in a quiet place. Rub the palms of both the hands for 15-20 seconds till they begin to feel warm. With the fingertips resting on the forehead, place the hands over the eyes. Close the eyes, take a deep breath and feel the warmth. Continue this process 6-7 times.

3. Focus Shifting

Method - Sit in a comfortable position and breathe normally. With the thumb pointing upward, hold one arm straight in front. Keep the focus on the thumb and move the thumb towards the nose. Pause for a few seconds and then again take the arm to the original position while maintaining the gaze on the thumb. Repeat it 10 times.

4. Blinking

Method - Sit in a comfortable position with the eyes wide open. Blink for ten times very quickly. Now close the eyes and relax for 20-25 seconds. Repeat the process 5-6 times.

While digital eye strain is increasingly becoming a concerning issue in the modern-day world, Yoga can come to the rescue and bring instant relief. Practise these Yoga poses on a daily basis and reap the benefits of strong, healthy eyes for a lifetime.

Sickle Cell Disease

What Is Sickle Cell Disease? (The Indian Express: 20220623)

<https://indianexpress.com/article/lifestyle/what-is-sickle-cell-disease-7978329/>

Sickle Cell Disease is a group of preventable inherited red blood cell disorders.

Sickle Cell Disease (SCD)

Sickle cell disease (SCD) is a group of inherited red blood cell disorders.

Healthy red blood cells are round and they move through small blood vessels carrying oxygen to all parts of the body.

In SCD, the red blood cells become hard and sticky and look like a C-shaped farm tool called a “sickle”.

Sickle cells die early, which causes a constant shortage of red blood cells.

What causes SCD?

Point mutation in beta globulin gene changing Glu→Val at position 6 in the Beta Globin chain of hemoglobin, results in Hb S.

Who is affected by sickle cell disease?

SCD affects millions of people throughout the world and is particularly common among those whose ancestors come from sub-Saharan Africa; regions in the Western Hemisphere; Saudi Arabia; India; and Mediterranean countries such as Turkey, Greece, and Italy.

What health problems does sickle cell disease cause?

Sickle cells can get stuck in small blood vessels and block the flow of blood and oxygen to organs in the body. These blockages cause repeated episodes of severe pain, organ damage, serious infections, or even stroke.

Following are some of the most common complications of SCD:

“Pain Episode” or “Crisis”: Sickle cells don’t move easily through small blood vessels and can get stuck and clog blood flow. This causes pain that can start suddenly, be mild to severe, and last for any length of time.

“Infection”: People with SCD, especially infants and children, are more likely to experience severe symptoms of infections such as flu, meningitis, and hepatitis.

“Hand-Foot Syndrome”: Swelling in the hands and feet, often along with a fever, is caused by the sickle cells getting stuck in the blood vessels and blocking the blood from flowing freely through the hands and feet.

“Eye Disease”: SCD can affect the blood vessels in the eye and lead to long term damage.

“Acute Chest Syndrome (ACS)”: Blockage of the flow of blood to the lungs can cause acute chest syndrome. ACS is similar to pneumonia; symptoms include chest pain, coughing, difficulty breathing, and fever. It can be life threatening and should be treated in a hospital.

“Stroke”: Sickle cells can clog blood flow to the brain and cause a stroke. A stroke can result in lifelong disabilities and learning problems.

How to investigate for sickle cell disease?

Complete Blood Picture: Low hemoglobin

HPLC/ Hb electrophoresis: Diagnostic test which quantifies different types of hemoglobin.

Genetic testing: To detect the defective gene.

How is sickle cell disease treated?

The goals of treating SCD are to relieve pain and to prevent infections, eye damage, and strokes.

Parental education about the disease and information about preventing complications.

There is no single best treatment for all people with SCD. Treatment options are different for each person depending on the symptoms. Treatments can include receiving blood transfusions, maintaining a high fluid intake (drinking 8 to 10 glasses of water each day), receiving IV (intravenous) therapy (fluids given into a vein), medications to help with pain and Folic acid and Calcium to support the high turnover of the bone marrow.

Prevention of infection by prophylactic penicillin.

Regular immunisation; additional vaccines against encapsulated organisms especially pneumococcus.

A medicine Hydroxyurea is recommended for many SCD patients. It reduces the number of painful episodes and the recurrence of ACS. It also reduces hospital stays and the need for blood transfusions among adults who have SCD.

HSCT: To date, the only cure for SCD is a bone marrow or stem cell transplant. It is indicated in CNS crisis, chest crisis or pain crisis not responding to regular transfusions. Hematology, Oncology and BMT department at Rainbow Children Hospital, provides medical management and stem cell transplant therapy for children with sickle cell disease.

Antenatal diagnosis:

Sickle cell disease can be diagnosed in an unborn baby by sampling CVS or amniotic fluid surrounding the baby in the mother's womb (amniotic fluid). This is useful to prevent the birth of a second child with sickle cell disease in the family when we know the index genetic mutation.

Active family screening and extended family members screening will help in controlling the disease

Heart attacks

Explained: What led to a six-fold rise in heart attacks in Mumbai in the first half of 2021? (The Indian Express: 20220623)

<https://indianexpress.com/article/explained/mumbai-heart-attack-rise-explained-7984371/>

Mumbai witnessed a six-fold rise in deaths related to heart attack in the first half of 2021. What was behind the surge? Was there a link with Covid-19?

Data provided by the Brihanmumbai Municipal Corporation (BMC) showed that in 2019, a total of 5,849 patients lost their lives to heart attack in Mumbai.

India's financial capital Mumbai witnessed a six-fold rise in deaths related to heart attack in the first six months of 2021 when the city was under the grip of the second wave of Covid-19.

In the period between January-June 2021, nearly 3,000 people lost their lives to heart attacks every month which was around 500 in 2020.

Nearly 23.8 per cent (17,880) of the total 75,165 deaths recorded till June last year in Mumbai were attributed to heart attacks. This information was revealed through an RTI filed by an activist Chetan Kothari.

The figures have raised several questions about the sudden, unprecedented surge in deaths related to heart attacks. Medical officials have attributed several factors behind the staggering spike – post-Covid development of thrombosis, delay in diagnosis in heart-related ailments amid the second wave, better recording of heart-attack cases, major lifestyle changes and additional distress noticed in the second wave.

What could have been the clinical reasons behind such a surge?

Data provided by the Brihanmumbai Municipal Corporation (BMC) showed that in 2019, a total of 5,849 patients lost their lives to heart attack in Mumbai. This dropped slightly by 3.6 per cent when in 2020, 5,633 patients succumbed to the disease. But, to everyone's surprise, in the period between Jan-June 2021, a total of 17,880 succumbed to heart attacks in Mumbai with a surge of 217 per cent, compared to the previous year, as per the RTI.

Dr Avinash Supe, in-charge of the Covid-19 death committee, sees three major reasons for the surge in deaths related to heart attack – possibility of development of thrombosis among the Covid-19 recovered patients, delay in diagnosis of patients amid the pandemic and better recording of data.

“Globally, it has been witnessed that heart attack related deaths increased in the pandemic, so it is not a new phenomenon that has only been observed in Mumbai. Secondly, since the start of the pandemic, the medical practitioners are more conscious in segregation and bifurcation

of types of deaths, so it has possibly helped to maintain better data related to heart attacks,” said Dr Supe.

Also, during the second wave, many patients avoided hospitals due to fear of contracting Covid-19, which further delayed life-saving treatment.

Dr Prafulla Kerkar, interventional cardiologist and chairman of Guidelines Committee of Cardiological Society of India (CSI), said, “The pandemic has been blamed for people with heart attack symptoms reaching hospital late, which pushed up the mortality rate. Reperfusion therapies like Thrombolytic therapy (that dissolve clots) and timely interventions like angioplasty were delayed.”

He also said there is a possibility that patients who died of pre-existing heart conditions like decompensated heart disease or heart failure (the heart doesn’t pump blood as well as it should) were categorised as heart attacks without necessary investigation at a time the health system was overwhelmed with Covid-19.

“A patient with heart failure is not identified as having a heart attack until it is shown in the ECG and cardiac enzyme levels are elevated. So, there is a possibility that the data also includes cases of heart failure,” he said.

Covid restrictions led to a more sedentary lifestyle. Can this lifestyle change have a correlation with heart attacks?

Other than the critical risk factors, the prolonged lifestyle changes in the pandemic added to the risk of developing heart attacks.

“Life has become more sedentary with less options of socialisation and physical activities. The sugar and cholesterol levels are going haywire along with weight gain. Along with that, during the second wave, a lot of people were under stress – all these can also be contributing to the rise in heart attacks,” said Dr Supe.

Doctors have witnessed an increase in the prevalence of diabetes, hypertension, smoking, alcohol use and an unhealthy lifestyle in the last two years.

“Besides the rise in these risk factors, Indians have a genetic predisposition, smaller coronary arteries, a diet pattern with excessive consumption of trans fats and a sedentary lifestyle that puts them in a high-risk category for heart attacks,” said Dr Sanjith Saseedharan, consultant and head of Critical Care, SL Raheja Hospital, Mahim.

Is there a clinical explanation behind linking Covid-19 with higher risk of heart attacks?

Since the start of the pandemic, it has been observed that SARS-Cov-2 damages the heart and blood vessels in infected patients which leads to the development of clots, heart inflammation, arrhythmias, and heart failure. The Lancet – a science journal in August 2021 published that in the week after a diagnosis with Covid-19, the risk of a first heart attack increased by three to eight times.

Dr Kedar Todaskar, Director of Critical Care at Wockhardt Hospital and member of Maharashtra Covid-19 task force, said that though no clear-cut cause and effect relationship has been proven, data does suggest that Covid-19 infection was a risk factor for thrombosis – not only arterial but venous thrombosis which included deep vein thrombosis and pulmonary thromboembolism too apart from acute coronary syndromes.

“This is related to the virus interacting with the ACE2 receptors in the host body. So, all the organs with a predominance of ACE2 receptors are involved which includes the endothelium. The endothelium is the inner lining of all the vascular structures in the body which includes the arterial & the venous system. Covid-19 typically causes inflammation of the endothelium which is termed as Covid Endotheliitis. This endotheliitis is the cause of increased thrombotic events thereby leading to the increase in the cardiac mortality and morbidity seen in the second wave,” he said.

Dr Saseedharan further explained that Covid-19 is an inflammatory disease which has the potential to destabilize plaques in the coronaries, which can lead to myocardial infarction. The severe affection of the lungs can also cause oxygen supply and demand mismatch, which also causes increased heart attacks. “This means that Covid-19 can also cause microvascular damages, which may have also contributed to heart ailments,” he added.

Some medical experts also raised voices about unscientifically certifying deaths without proper post-mortem or other apparent methods like an angiography proven coronary occlusion in the second wave.

“There is a distinct possibility that many of these patients died at home and thus ‘certified’ like heart attacks by the local general practitioner. Many of them might have not even visited the hospital due to the fear of relatives contracting Covid,” said Dr Saseedharan.

Do we need better multi-centred studies in India for more scientific analysis of this trend?

Dr Abdul Samad Ansari, Director, Critical Care Services, Nanavati Max Hospital, said that many patients have suffered from Acute Cardiac Events during the pandemic due to the thrombotic state created by the infection.

But he also raised the need for better investigation by involving population dynamic or demographic statistics, past history of Covid-19 infection, vaccination status and existing medication routine.

“If these patients had no history of past or present Covid infection and died purely due to cardiac complications then the causes could be major lifestyle changes, additional distress or any new clinical anomaly, yet to be analysed. It’s advisable to read the data in conjunction with associated risk factors for cardiac complications,” he said.

New eye exam may be able to predict a heart attack (Medical News Today: 20220623)

<https://www.medicalnewstoday.com/articles/new-eye-exam-may-be-able-to-predict-a-heart-attack>

New research has identified a link between vascular complexity in the eye's retina and the risk of having a myocardial infarction, or in other words, a heart attack.

The discovery was made by using artificial intelligence and “deep learning” to process data representing a large group of individuals.

Combined with new genetic insights, the researchers can accurately predict heart attacks when the model includes demographic data.

Soon, retinal scans may be able to predict heart attacks. New research has found that decreased complexity in the blood vessels at the back of the retina in the human eye is an early biomarker for myocardial infarction.

“For decades, I've always lectured that the eye is not the window to the soul, but the window to the brain and the window to the body,” said ophthalmologist Dr. Howard R. Krauss, speaking to Medical News Today about new research.

“AI [artificial intelligence] plus ‘deep learning’ is proving that to be the case,” he added.

Cardiologist Dr. Rigved Tadwalkar, who was not involved in the research, told MNT that the findings were interesting.

“[A]lthough we have known that examination of retinal vasculature can produce insights on cardiovascular health, this study contributes to the evidence base that characteristics of the retinal vasculature can be used for individual risk prediction for myocardial infarction,” he said.

“This [study] represents another tool in the toolbox to help determine who could potentially benefit from earlier preventative intervention [when it comes to heart attacks].”

— Dr. Rigved Tadwalkar

“The greatest appeal,” said Dr. Krauss, who was also not involved in the study, “is that the photography station may be remote to the clinician, and perhaps, someday, even accessible via a smartphone.”

The research was presented on June 12 at the European Society of Human Genetics.

Retinal scans and blood vessels

According to a press release, the project utilized data from the UK Biobank, which contains demographic, epidemiological, clinical, and genotyping data, as well as retinal images, for more than 500,000 individuals. Under demographic data, the data included individuals' age, sex, smoking habits, systolic blood pressure, and body-mass index (BMI).

The researchers identified about 38,000 white-British participants, whose retinas had been scanned and who later had heart attacks. The biobank provided retinal fundus images and genotyping information for these individuals.

At the back of the retina, on either side where it connects to the optic nerve, are two large systems of blood vessels, or vasculature. In a healthy individual, each resembles a tree branch, with similarly complex fractal geometry.

For some people, however, this complexity is largely absent, and branching is greatly simplified.

In this research, an artificial intelligence (AI) and deep learning model revealed a connection between low retinal vascular complexity and coronary artery disease.

The power of AI

“The beauty of utilizing AI and deep learning is that as the database builds, one may learn of associations, and the predictive value of retinal evaluations, in ways which we may not even suspect today,” said Dr. Krauss.

Dr. Krauss added there are advantages of using AI and deep learning in such research.

“AI is capable of looking at a photograph and, with 97% accuracy, telling whether it's a male or female. No ophthalmologist can look in the eye, or look at a photograph, and tell you if it's male or female,” beyond guessing, he said.

The AI model was moderately successful when considering vascular density alone. However, Villaplana-Velasco described its accuracy as “significantly reduced when compared with a model that also included demographic data, and with established risk models.”

“Even when we just included age and sex to retinal vascular complexity, we found a significant improvement,” she said.

Specific genetic regions

A third factor improved the predictive power of the researchers' model even further.

“Our genetic analysis showed,” said lead author and Ph.D. student Ana Villaplana-Velasco, “that four genetic regions associated with retinal vascular complexity have a role in MI-related biological processes.”

She said that her team was interested in further studying this link “by collaborating with other research groups focused on in-vitro experiments.”

“The findings make sense, in that a true association was seen between fractal dimension [complexity] and incident cardiovascular disease,” said Dr. Tadwalkar.

He noted that “the model also integrates [a polygenic] risk score, which can significantly improve precision on its own.”

Spotting signs of other diseases

Dr. Krauss said that the retina could hold clues to many systemic diseases.

“For over a hundred years, since the ophthalmoscope was invented, the retina has been used to diagnose a variety of systemic diseases in modern-day medicine. Once we now apply AI and deep learning networks, we’re able to see retinal changes before the ophthalmologist would necessarily see them,” he said.

“These changes are not exclusive for higher MI risk,” Villaplana-Velasco told MNT, adding that these findings could be applicable to other diseases.

“We believe that every condition might have a unique retinal vascular variations profile.”

— Ana Villaplana-Velasco, lead author

“[The findings are] certainly a step in the right direction and [provide] at least partial explanation,” said Dr. Tadwalkar. “However, we would need to see additional research reproducing the findings.”

Both Dr. Tadwalkar and Dr. Krauss expressed concern over the limited range of individuals represented in the data. Dr. Krauss pointed out a majority were “white U.K. residents and not gender stratified.”

“The data used in the study are inherently limited by the population studied,” said Dr. Tadwalkar.

“Future work should be focused on the reproduction of results in other cohorts and/or in larger numbers of patients, as this would not only validate the findings but also improve risk prediction,” he added.