कोरोना

130 दिन बाद एक दिन में मिले 18 हजार से ज्यादा नए मरीज, संक्रमण दर 4.16 फीसदी पर पुंछी
(Amar Ujala: 20220630)


नए संक्रमितों की संख्या में भारी बढ़ोतरी के साथ ही देश में सक्रिय केस बढ़कर 1,04,555 और दैनिक संक्रमण दर 4.16 फीसदी हो गई है।

कोविड जांच के लिए संपूर्ण लेंस में खिला स्वास्थ्यकर्मी

देश में कोरोना मरीजों में गुरुवार को उछाल आया है। 130 दिन बाद बीते 24 घंटे में 18,819 नए कोरोना मरीज मिले और 39 मरीजों की मौत हो गई। बुधवार की तुलना में नए संक्रमित 4312 ज्यादा मिले हैं।

नए संक्रमितों की संख्या में भारी बढ़ोतरी के साथ ही देश में सक्रिय केस बढ़कर 1,04,555 और दैनिक संक्रमण दर 4.16 फीसदी हो गई है। गुरुवार को मिले नए केसों के साथ ही देश में कुल संक्रमितों की संख्या बढ़कर 4,34,52,164 हो गई है। केंद्रीय स्वास्थ्य मंत्रालय द्वारा अपडेट आंकड़े के अनुसार बीते 24 घंटे में सक्रिय केस में 4953 का इजाफा हुआ है। देश में सक्रिय केस 122 दिन बाद 1 लाख के पार पहुंचे हैं।
बुधवार को 14,506 नए मामले सामने आए थे। ये मंगलवार की तुलना में करीब 25 फीसदी ज्यादा थे।
बुधवार को 30 मरीजों की मौत हुई थी, वहीं गुरुवार को बीते 24 घंटे में 39 मौतें हुईं और कुल मौतें बढ़कर 525116 हो गई हैं। कुल केसों में सक्रिय केस की संख्या 0.24 फीसदी है। वहीं कोरोना से ठीक होने वालों की दर 98.55 फीसदी और मृत्यु दर 1.21 फीसदी हैं। देश में अब तक 4,28,22,493 कोरोना से उबर चुके हैं। वहीं, अब तक 197.61 करोड़ केस दर्ज हो चुके हैं।

desh me korona : ek nazar me

바ीते 24 घंटे में मिल नए केस 18,819

देश में अब तक कुल केस 4,34,52,164

24 घंटे में मौतें 39, अब तक कुल मौतें 5,25,116

सक्रिय केस में 24 घंटे में बढ़ोतरी 4,953, कुल सक्रिय केस 104555

दैनिक संक्रमण दर 4.16, साप्ताहिक संक्रमण दर 3.72

अध्ययन : निगेटिभ होने के बाद भी थायरॉयड ग्रंथि पर सालभर चिपका मिला कोरोना, पोस्ट कोविड मरीजों में लंबे समय तक दिखा असर (Amar Ujala: 20220630)


शोधकर्ताओं ने कहा कि मध्यम से गंभीर संक्रमण के दौरान थायरॉयड ग्रंथि पर सूजन की स्थिति भी बन रही है।

प्रतीकात्मक तत्वीर

कोरोना संक्रमण से ठीक होने वाले मरीजों की थायरॉयड ग्रंथि पर एक साल तक वायरस चिपका मिला। इटली में मिलान विवि के शोधकर्ताओं ने अध्ययन में इसकी पुष्टि की है। अध्ययन के
अनुसार जिन मरीजों में कोरोना संक्रमण का गंभीर रूप देखने को मिला था। उनमें पोस्ट कोविड के तहत लंबे समय तक संक्रमण का असर देखने को मिल रहा है।

ये लोग निगेटिव होने के बाद भी पूरी तरह से स्वस्थ नहीं हैं। इनमें से कई लोगों में थायरॉइड ग्रंथि में संक्रमण की मौजूदगी पता चली है। शोधकर्ताओं ने कहा कि मध्यम से गंभीर संक्रमण के दौरान थायरॉइड ग्रंथि पर सूजन की स्थिति भी बन रही है।

बढ़ जाता है हार्मोन असंतुलन

अध्ययन में पाया कि हार्मोन असंतुलन आमतौर पर हल्का होता है लेकिन कोरोना के गंभीर मामलों में यह काफी बढ़ जाता है। मिलान विश्व के इलायिया मूलर ने कहा, थायरॉइड ग्रंथि व संक्रमण के बीच स्पष्ट संबंध है। ऐसे में यह जानना महत्वपूर्ण है कि थायरॉइड हार्मोन रोग की गंभीरता से संबंधित है या नहीं?

कोरोना : नए मरीज 25 फीसदी बढ़े

देश में कोरोना संक्रमण के मामलों में फिर से उछाल दर्ज किया गया। बीते एक दिन में संक्रमण के नए मरीजों में करीब 25 फीसदी तक की बढ़ोतरी दर्ज की गई है। इतना ही नहीं देश में कोरोना संक्रमण की दैनिक और साप्ताहिक संक्रमण दर भी लगभग एक बराबर पहुँच गई है जबकि जांच का दायरा अभी भी सीमित है।

बुधवार को केंद्रीय स्वास्थ्य मंत्रालय ने बताया, बीते 24 घंटों में कोरोना के 14,506 नए मामले सामने आए हैं जो कि मंगलवार की तुलना में लगभग 25% अधिक है। वहीं इस दौरान 30 मरीजों की जान चली गई। इसके अलावा 11574 रोगियों को छुट्टी भी दी गई।
Covid cases on rise in 110 countries, driven by 2 Omicron sub-variants: WHO (The Indian Express: 20220630)

https://indianexpress.com/article/world/covid-cases-who-omicron-sub-variants-7999832/

The WHO chief also voiced concern over the slow pace of vaccination in lower-income countries, making the at-risk population in those areas more vulnerable to future waves of the virus.

The Covid-19 pandemic is changing but it is not over, head of the World Health Organisation said on Wednesday, cautioning that the cases are on the rise in 110 countries and are being driven mainly by two fast-spreading Omicron sub-variants.

The Centers for Disease Control and Prevention said this week that the fast-spreading Omicron sub-variants BA.4 and BA.5 together are estimated to make up half of the coronavirus cases in the United States.

As of June 25, BA.5 made up 36.6 per cent of the total coronavirus cases in the US while BA.4 accounted for 15.7 per cent, together accounting for about 52 per cent of new cases in the US.

“On Covid-19, driven by BA.4 and BA.5 in many places, cases are on the rise in 110 countries, causing overall global cases to increase by 20 per cent and deaths have risen in three of the six WHO regions even as the global figure remains relatively stable,” WHO Director-General Tedros Adhanom Ghebreyesus said.

He said the “pandemic is changing but it’s not over. We have made progress but it’s not over.” Ghebreyesus said the ability to track the virus is “under threat” as reporting and genomic sequences are declining, making it harder to track Omicron and analyse future emerging variants.

The WHO chief also voiced concern over the slow pace of vaccination in lower-income countries, making the at-risk population in those areas more vulnerable to future waves of the virus.

“We’re close to the mid-point of the year, which is the point at which WHO had called on all countries to vaccinate at least 70% of their population,” he said, adding that in the past 18 months, more than 12 billion vaccines have been distributed around the world and 75 per cent of the world’s health workers and over-60s are now vaccinated.

The Lancet estimates that 20 million lives have been saved because of vaccines.
“On the flip side, hundreds of millions of people, including tens of millions of health workers and older people in lower-income countries remain unvaccinated, which means they are more vulnerable to future waves of the virus,” he said.

Ghebreyesus said while the hoarding of vaccines by rich and manufacturing countries was the major barrier to access last year, increasingly political commitment to getting vaccines out to people – and challenges of disinformation – have been hurdles at the national level in 2022.

“With only 58 countries hitting the 70 percent target, some have said it’s not possible for low-income countries to make it,” he said.

The WHO Chief cited the example of Rwanda where second dose vaccination rates are now above 65 per cent and still rising.

Countries like Nepal and Cambodia “have shown it’s possible,” he said, adding that the average rate in low-income countries is 13 per cent.

“But if there is enough political will domestically, support to ensure rollouts to communities and disinformation tackled, high vaccination rates are entirely achievable,” he said.

Ghebreyesus underlined that going forward to prevent deaths and severe disease, it is important to keep the most at-risk groups up to date with vaccination.

He said that in all countries, 100 per cent of at-risk groups should be vaccinated and boosted as soon as possible.

“Even relatively ‘mild’ cases are disruptive and damaging, keeping children out of school and adults from work, which causes further economic and supply chain disruption. Do I think countries should continue to vaccinate 70 per cent of the population, starting with the most vulnerable? Yes, I do,” he said.

On the research and development front, Ghebreyesus said it is critical that there be funding for second-generation vaccines as well as tests and treatments.

“While honing vaccines to the evolving virus variants makes sense, I am concerned that the pace of mutation means the world is continuing to play catch up. Building on existing vaccines that limit severity and prevent death, developing second-generation vaccines that stop – or at least lower infection – would be a major step forward,” he said.

He said the ideal solution would be the development of a “pan-coronavirus” vaccine that covers all the variants so far and potentially future ones.

“This is feasible, WHO continues to convene scientists and researchers and there has been a lot of research into this virus and understanding immunology overall,” he said.
डंगू-मलेरिया

डंगू-मलेरिया का बढ़ा अटैक, आयुर्वेद के ये 7 उपाय बारिश के दिनों में बीमारियों को रखेंगे कोसो दूर  
(Navbharat Times: 20220630)


बारिश के मौसम में बदलाव और सूक्ष्मजीवों में वृद्धि के साथ, हमारे शरीर की प्रतिरक्षा प्रणाली  
कमजोर हो जाती है। यह हमें सभी प्रकार के वायरल, बैक्टीरियल और फ़ंगल संक्रमणों के प्रति अधिक  
संवेदनशील बनाता है। इस मौसम में पीलिया, टाइफाइड, डंगू, मलेरिया, हैजा और फ़लू कुछ आम  
बीमारियां हैं। जिसे तले-भुने खाने की आदत स्थिति को और खराब कर देती है।  

ऐमजॉन पर फोन फेस्ट, 30 जून तक मोबाइल फोन्स पर बंपर ऑफर  

मानसून(Monsoon) गर्मी से तरबतर हुई सभी चीजों को सुंदर और सुखद बना देता है। लेकिन बरसात  
का मौसम आते ही जलजनत बीमारियां भी फैलने लगती है। इस मौसम में पीलिया, टाइफाइड, डंगू,  
मलेरिया, हैजा और फ़लू कुछ आम बीमारियां हैं। इसके अलावा तले-भुने खाने की आदत स्थिति को  
और खराब कर देती है। हर साल इन बीमारियों के वजह से लाखों लोगों की मौत भी हो जाती है।  

आयुर्वेद(Ayurveda) से लेकर होम्योपैथी, चूनावी, सिड, योग, सोवा-रिप्या और प्राकृतिक चिकित्सा  
जैसी सभी पद्धतियां इस बात पर को मानती है कि बारिश के मौसम में बदलाव और सूक्ष्मजीवों में  
वृद्धि के साथ, हमारे शरीर की प्रतिरक्षा प्रणाली(Immune system) कमजोर हो जाती है। यह हमें सभी  
प्रकार के वायरल, बैक्टीरियल और फ़ंगल संक्रमणों के प्रति अधिक संवेदनशील बनाता है। कुछ सरल  
एहतयाती उपायों का पालन करके और अपनी जीवनशैली (Lifestyle) में कुछ सरल बदलाव करके,  
हम आसानी से अपनी प्रतिरक्षा में सुधार कर सकते हैं और शरीर को सामान्य मानसून की बीमारियों  
से लड़ने के लिए तैयार कर सकते हैं।  

अपच, उल्टी, दस्त का बढ़ा जाता है खतरा  

बारिश के मौसम में पाचन संबंधित परेशानियां ज्यादा परेशान करने लगती हैं। पेट दर्द, दस्त, उल्टी,  
कब्ज, सिरदर्द, बुखार, भूख न लगना, पाचन से संबंधित सबसे आम बीमारियों में से है। इससे बचाव  
के लिए बहुत सारे तरल पदार्थ लेकर हाइड्रेटेड रहने की जरूरत है। अदरक को खाने या चाय में
मिलाकर खाने से मतलब, उल्टी और दस्त को कम करने में मदद मिलती है। दर्द से राहत पाने के लिए नाश्ते में और उसके आसपास हींग (Asafetida) या हिंगवाटर का लेप लगाने से भी आराम मिलता है।

मसालेदार और बाहर के खाने से करे परहेज
बारिश में ज्यादा मसालेदार भोजन करना स्वास्थ्य पर विपरीत प्रभाव डाल सकता है। इससे अपच, अति अम्लता और सूजन हो सकती है। इस मौसम में रेस्टरां और रोड साइड दुकानों के भोजन से बचना सबसे अच्छा है। उनमें कीटाणु हो सकते हैं, जो आपको बीमार कर सकते हैं।

पत्तेदार सब्जियां न खाएं
बारिश के मौसम में जमीन के पास उगने वाली हरी पत्तेदार सब्जियों का सेवन न करें। ये सब्जियां बहुत अधिक गंदगी और नमी को आकर्षित करती हैं और मानसून के दौरान इन्हें साफ करना मुश्किल होता है। जिससे कि शरीर में कई तरह के बैक्टीरिया के घूसने का खतरा रहता है।

कड़ी सब्जियां है उत्तम
फिट और स्वस्थ रहने के लिए कड़ी सब्जियों और जड़ी-बूटियों का सेवन करें। ऐसे में संक्रमण को दूर रखने में मदद करने के लिए करें, नीम, मेथी और हल्दी अच्छा विकल्प है।

ऐसे करें पाचन शक्ति को मजबूत
हर भोजन से पहले अदरक का एक छोटा टुकड़ा सेंदा नमक के साथ चबाएं। यह संयोजन आपको भोजन को आसानी से चबाने में मदद करेगा। इस मौसम में ठंडा या बासी खाना न खाएं। गर्म भोजन करें और सलाद जैसे अधकार खाद्य पदार्थों से परहेज करें। मानसून के मौसम में ठोंड़ा सा शहद के साथ उबला हुआ पानी पीने की सलाह दी जाती है। यह शिशुओं और मौजूद अशुद्धियों को दूर करने में मदद करता है।

साफ-सफाई का रखें ध्यान
बारिश के दिनों में अपने घरों के पास साफ-सफाई का ध्यान रखें। साथ ही अपने हाथ- पैरों को अच्छे से कलेन करते रहें। त्वचा संबंधी किसी भी समस्या को रोकने के लिए अपने पैरों को अच्छी तरह से सुखाने के बाद बाम या मॉइस्चराइजर लगाएं जिसमें एंटीफंगल या एंटीबायोटिक गुण होते हैं। साथ ही बाहर से आने पर नहाएं और रोज साफ कपड़े ही पहनें।
Abdominal Hernia

KL Rahul's surgery brings focus to groin, abdominal hernia. Here's all you need to know about warning signs, treatment (Hindustan Times: 20220630)

KL Rahul recently gave a fitness and ‘healing’ update after undergoing a groin surgery in Germany. Here's all you need to know about the causes, warning signs, diagnosis and latest treatment options available for groin and abdominal hernias, as revealed by a doctor

KL Rahul's surgery brings focus to groin and abdominal hernia. Here's all you need to know about warning signs, latest treatment options available

India's cricket team vice-captain and Lucknow Super Giants skipper KL Rahul recently updated fans on his fitness status after undergoing a successful groin surgery in Germany. He was expected to lead India earlier this month in the five-match T20I rubber against South Africa but had sustained a groin injury that forced him out but has now confirmed that he is healing and recovering well, which has brought people's focus to groin and abdominal hernias.

A hernia is a common problem seen in men and women and a large number of people suffer from it at some point of time but it is to be noted that this health condition is not life-threatening and can be dealt with via surgery. Nowadays, there are many treatment options available when it comes to hernias hence, seek timely treatment to improve your quality of life.

Are you aware? A hernia can led to a space in between the fascia of the abdominal wall and muscles via which the small and large intestine, stomach and bladder may bulge out. You will also be shocked to know that a hernia can also be seen in the abdomen between the chest, hips, groin areas and upper thigh while in women, pregnancy can cause pressure in the abdominal cavity and tear at a weak point in the abdominal midline or navel leading to umbilical or ventral hernia.

Causes:

In an interview with HT Lifestyle, Dr Roy Patankar, Gastroenterologist and Director of Zen Multispecialty Hospital in Mumbai's Chembur, shared, “One can suffer from a hernia due to an enlarged prostate, obesity, abdominal fluid, lifting heavy weights, constant coughing, straining during urinating, constipation, and exertion. You may be at the risk of getting a hernia due to old age, smoking, pregnancy, low birth weight, and constipation.”
Warning signs:

He highlighted, “The signs and symptoms of a hernia are swelling in the groin or abdominal wall, pain while coughing and sneezing, constipation, vomiting, nausea, and backache because of improper posture, weakness, dull ache, heaviness, or a burning sensation in the abdomen, groin, and scrotum. One’s condition can worsen when there is pressure on the abdominal muscles while you coughing, lifting heavy objects, playing sports, or standing for long periods.”

Diagnosis:

When you consult the doctor, he/she can ask you to do an abdominal ultrasound, CT scan or MRI scan to know whether it is a hernia problem. Dr Roy Patankar suggested, “Take an appropriate treatment once the diagnosis is confirmed. Don’t waste your time after the diagnosis as the hernia can become strangulated causing permanent damage. The intestines can also become trapped in the hernia, and there can be extreme pain and even cutting off the blood supply to the intestines. The doctor will decide upon the type of surgery needed for you based on the size of the hernia, its type, and location. Moreover, other factors such as lifestyle, health, and age will also be taken into consideration. You will be asked to undergo surgery when you are seriously ill and the hernia is interfering with your daily activities.”

Treatment options available to tackle hernia:

1. Open Repair - It is done in case of large hernia defects as a part of abdominal wall reconstruction. Here the mesh is positioned between the muscles layers, to cut down the risk of complications and repair the hernia. You can do it after speaking to the doctor. Open surgery under local anaesthesia for elderly unfit Patients

2. Laparoscopic hernia repair surgery - It is a popular one and is done widely. Here, the camera that is a ‘laparoscope’ is inserted into the abdomen to see the hernia in order to make a perfect incision in the lower abdomen, and this is performed under general anaesthesia. Did you know? Open surgery for hernia repair is done by making an incision in the groin. Thus, the bulging intestine stored in a hernia is pushed back to the abdomen. Then a synthetic mesh or stitches are used for the purpose of restoring the abdominal wall. The advantage of laparoscopic surgery is short stay 24 to 48 hrs no stitches outside can have a bath the next day. A belt prior to surgery may be harmful as if hernia not reduced before application of belt can cause strangulation and gangrene

3. TAR Surgery for Recurrent and Complex Hernia Repair to manage complex ventral hernias - If you have been asked to undergo this procedure then the surgeon will make a midline-long incision is made to the pubis in order to open the hernia and free its flanks. Not everyone may require surgery. Your doctor will be able to determine the line of treatment for you.

4. Robotic surgery - It is a minimally invasive surgical option with a magnified 3D high-definition vision system and special wristed instruments enabling the doctor to operate with
enhanced vision, precision, and control. This is the newest and the latest technology used to deal with a hernia. Robotic surgery for hernia repair is an advanced procedure as the surgeon gets three-dimensional images of the internal abdomen assuring minor scars and lesser pain.

Dr Roy Patankar advised, “One should also check family history. To prevent, eat foods containing fiber to manage constipation. Try to include broccoli, berries, avocado, whole grains, apples, dried fruits, asparagus, melons, oranges, nuts, peas, kidney beans, almonds, soybean, quinoa, oats, beans, lentils, chia seeds, and bananas in the diet. Avoid pressurizing during bowel movements, strengthen the abdomen muscles by exercising without fail, avoid lifting heavy weights or objects, and bid adieu to smoke and alcohol. Timely treatment is key to managing this condition and leading a healthy life.”

Child and adolescent care model

Lancet paper highlights child and adolescent care model of NIMHANS (The Hindu: 20220630)


NIMHANS’ SAMVAD model was principally approved by the Union Ministry of Women and Child Development in October 2019.

The model has been initiated to increase access to and availability of child and adolescent mental health and protection support and services

Highlighting the SAMVAD model by NIMHANS, a recent paper published in The Lancet Regional Health - Southeast Asia has said that this model is the way forward to strengthening the nation’s response to child and adolescent mental health (CAMH) issues.

Titled ‘A transdisciplinary public health model for child and adolescent mental healthcare in low and middle income countries’, the paper was published on June 17.

SAMVAD (Support, Advocacy and Mental health interventions for children in Vulnerable circumstances And Distress) is a model of inter-sectoral collaboration and technology leveraging to build capacity of child care workers. Carved out from the erstwhile Community Child and Adolescent Mental Health Service project, a collaborative project of NIMHANS and Karnataka’s Department of Women and Child Development, SAMVAD
was principally approved by the Union Ministry of Women and Child Development in October 2019.

K. John Vijay Sagar, professor and Head of the Department of Child and Adolescent Psychiatry at NIMHANS who is the principal investigator of the project, told The Hindu that the model is a unique initiative that serves as a resource for the country. “It has been initiated to increase access to and availability of child and adolescent mental health and protection support and services through the use of integrated approaches to child well-being,” he said.

“This model applies innovative teaching and learning methods of participatory, creative and skill-based pedagogies, to deliver training programs focusing on the fundamentals of child mental health and protection work that is relevant to low and middle income countries (LMICs). The model explains frameworks and methodologies that make the training and capacity building done by SAMVAD scalable and standardised while allowing for adaptation of materials to specific professional needs and functions of various types of child care workers and service providers,” Dr. Sagar explained.

During pandemic

Assuming operations during the COVID pandemic, in the wake of heightened protection and CAMH concerns, SAMVAD leveraged technology, through creation of virtual knowledge networks and adaptation of in-person training workshops to online programs, enabling CAMH to permeate to remote districts of the country, the doctor said.

“So far, the model has reached across the country, to cover 1,16,243 (child care) service providers and duty-bearers through capacity building initiatives and tele-mentoring services and 26,32,875 stakeholders and citizens (namely parents, teachers, protection functionaries, health workers and other interested parties) through public discourse series, all of which are delivered in diverse Indian languages,” he said.

According to the Lancet paper, the SAMVAD model has been designed to work in four verticals - Care and Protection, Education, Mental Health and Law and Policy. “It employs transdisciplinary approaches to enable solutions to complex CAMH problems through dialogue and capacitation of stakeholders from multiple disciplines. SAMVAD undertakes research, training and capacity building and related services, using methodologies that draw upon mono-disciplinary expertise, whilst also amalgamating the diverse viewpoints that characterise systemic and sectoral priorities of individual stakeholders interacting with children,” the paper stated.

“SAMVAD’s essential training program focuses on the fundamentals of child mental health and protection work that would be relevant to LMICs. These include sensitisation to children and childhood experiences, application of child development concepts, identification of vulnerability and protection risks and contexts, communication and counselling techniques with children, provision of first level responses to common child mental health disorders and key provisions of child law in India, so as to locate the
implementation of the law in relevant child psychosocial and protection contexts,” according to the paper.

“This content is adapted to the specific professional needs and functions of various types of child care workers and service providers. More in-depth and specialized programs, such as those focusing on child sexual abuse, children in conflict with the law and children with disability, and early childhood education are also delivered, particularly to secondary and tertiary level child care workers across various sectors,” the paper added.

Migraine

Migraine Awareness Day: Are patients with chronic headaches often misdiagnosed? (The Indian Express: 20220630)

https://indianexpress.com/article/lifestyle/health/migraine-awareness-day-are-patients-with-chronic-headaches-often-misdiagnosed-7998932/

"Migraine is not completely curable, but 70 per cent of it can be controlled and managed. It is imperative for one to understand the triggers," says a doctor

There is a difference between a migraine headache and a regular one. Migraines can have a negative impact on not just the patient, but also their families, co-workers and the society. Which is why it is important to diagnose and treat patients in a timely manner.

Despite its debilitating impacts on health and overall quality of life, migraine remains one of the most “undiagnosed, undertreated, underfunded and under-recognised” medical conditions, says Dr Jitendra Sharma, classified specialist (medicine and neurology), Base Hospital, Delhi Cantt.

Citing research, the doctor says that most people do not receive an accurate diagnosis for their migraine headaches for several years. “With chronic migraine, only 1 in 20 patients find the correct diagnosis and guided treatment,” he says.

It should be noted that some chronic and mild conditions have similar symptoms and so, patients are diagnosed with these instead of migraine, which can further delay their treatment therapies.

According to Dr Sharma, here are some of them:
1. Tension headaches: These are one of the most common types of headaches, which are usually stress-induced and carry similar symptoms to that of migraine, such as photophobia, nausea, incessant pain, etc. Chronic tension headaches can gradually transform into migraines, which require correct diagnosis.

2. Sinus headaches: A number of migraine patients feel they are experiencing a sinus headache. These headaches are somewhat rare and are developed due to a bacterial/viral sinus infection. Patients may feel facial pain and headache until the infection completely disappears.

3. Anxiety: It is common for migraines to be perceived as anxiety or panic attacks. Symptoms such as nausea, vomiting, headache, and lightheadedness are common. There is a fair chance for a migraine patient developing anxious emotions due to the presence of the condition eventually.

4. Neck pain and headaches: Migraine patients commonly experience neck pain and headaches. A poor posture and shoulder tension can be a cause, or it can be overworking or lounging in uncomfortable positions. If the pain is accompanied by nausea, vomiting, triggered by light and noise, and other environmental factors, the patient may suffer from migraine.

5. Eye strain: Conditions such as dry eyes, injury to the eye, degenerative eye disease, uncorrected nearsightedness and farsightedness, lead to headaches. It is important to analyse that these headaches are not disabling and not as recurrent. One needs to understand the difference between the two headaches.

“Migraine is not completely curable, but 70 per cent of it can be controlled and managed. It is imperative for one to understand the triggers as they vary from person-to-person. If one suffers from core symptoms such as recurrent and disabling headaches, one must visit a specialist — a neurologist. They can help find the root cause of migraine by understanding the symptoms,” the doctor concludes.
mRNA vaccine for Covid-19

Explained: How India’s first mRNA vaccine for Covid-19 was created (The Indian Express: 20220630)

https://indianexpress.com/article/explained/india-mrna-covid-vaccine-gennova-biopharmaceuticals-gemcovac-7998264/

As the Covid-19 pandemic spread, an mRNA vaccine candidate was the first to enter human trials globally. The first two vaccines that were made available for use in the US were based on mRNA technology.

mRNA Vaccine Unlike vaccines that put a weakened or inactivated virus in your body to activate an immune response, these two Covid-19 vaccines (Pfizer-BioNTech and Moderna) used messenger RNA or mRNA to deliver a message to your immune system. (AP Photo)

The country’s first home-grown mRNA Covid-19 vaccine — GEMCOVAC-19 — developed at Pune’s Gennova Biopharmaceuticals has got a ‘restricted emergency use’ nod for the 18-and-above age group. As mRNA vaccines are required to be kept at sub-zero temperatures, it was a mammoth task for Gennova scientists to develop a thermostable mRNA Covid-19 vaccine. Scientists had to innovate to suit local needs to make it affordable and deployable. The new vaccine can now be stored at the temperature of a standard medical refrigerator.

The mRNA platform

As the Covid-19 pandemic spread, an mRNA vaccine candidate was the first to enter human trials globally. The first two vaccines that were made available for use in the US were based on mRNA technology.

Unlike vaccines that put a weakened or inactivated virus in your body to activate an immune response, these two Covid-19 vaccines (Pfizer-BioNTech and Moderna) used messenger RNA or mRNA to deliver a message to your immune system.

Basically, the technology uses genetically engineered mRNA to instruct cells to make the S-protein found on the surface of the Covid-19 virus. According to reports from US-based Mayo Clinic, after vaccination, the muscle cells begin making S-protein pieces and displaying them on cell surfaces. This causes the body to create antibodies.

But these vaccines have to be stored at sub-zero temperatures as mRNA is fragile and breaks down easily.
"Unlike in the West, where the vaccine has to be stored at sub-zero temperatures, the challenge in India was to be able to store the vaccine between 2-8 degree Celsius. We had to innovate to suit our local needs as to what is affordable and deployable. GEMCOVAC-19 can now be stored at the temperature of a standard medical refrigerator," says Dr Sanjay Singh, CEO of Gennova Biopharmaceuticals.

The conversion from liquid to powder form of the vaccine takes place via Lyophilisation — this is freeze-drying, a process where the water is removed from the product after it is frozen and placed under a vacuum allowing the ice to change directly from solid to vapor without passing through a liquid phase.

However, just removing water by Lyophilisation of the mRNA vaccine does not work. So, the surrounding pressure has to be tweaked and then kept stable to ensure the characteristics of the vaccine are the same as before Lyophilisation. For this to be achieved, the key was to add an external agent which at a certain critical concentration keeps it stable under lyophilized conditions. The Lyophilisation technology is not new, but a lyophilized mRNA vaccine is unique.

“We performed hundreds of trials before arriving at the right formulation and right condition to ensure a heat-stable mRNA vaccine,” Dr Singh said.

Also in Explained | New research: How self-replicating mRNA Covid-19 vaccines work, and what trial results show

Trials and safety

Freeze-drying the large and unstable mRNA molecule with the nanoparticle was a daunting challenge. However, Gennova invested countless man-hours in the hope of lyophilizing the mRNA vaccine in a single vial within a year. This thermostable vaccine was thoroughly tested in various animal models to ensure its safety and immunogenicity before entering human clinical trials. Phase 1 and 2 trial data across 480 participants had been submitted
earlier, and data from Phase 3 trial across 4,000 participants was then presented to the Central Drugs Standard Control Organisation (CDSCO). During the Phase 3 trials, 3,000 participants were administered the mRNA Covid-19 vaccine and 1,000 were given Covishield.

According to officials at Gennova, the trial data showed that the vaccine was safe and well-tolerated. Immunogenicity measured at 2 weeks post-dose showed that GEMCOVAC-19 is non-inferior to Covishield.

The two-dose vaccine will have to be administered intramuscularly, 28 days apart.

Fight against emerging variants

For the first time, the mRNA platform has been used to develop a Covid-19 vaccine in India. This total process may have taken one-and-a-half years, but for Dr. Singh, a biochemist who had worked on malaria vaccines at the US-based National Institutes of Health, and the team, designing an mRNA vaccine against the Omicron variant barely took 60 days.

Notably, this technology platform provides flexibility to quickly tweak the vaccine for any existing or emerging variants of the virus.

“A pandemic-ready platform technology has been created that can be used to quickly develop a vaccine should a variant-of-concern emerge due to the rapid mutation of the SARS-CoV-2 virus. Clinical trials need to be done to ascertain the effectiveness of the GEMCOVAC-19 against Omicron and sub-variants,” said Dr. Singh.

A short clinical trial will also be conducted with the Omicron-specific vaccine, which has also been designed for use as a booster and a protocol submitted to the DCGI.

He added: “The learning curve was steep not only in terms of production but also in conducting the clinical trials. The approval of the nation’s first mRNA vaccine will pave the way for the development of new-variant specific mRNA vaccines that can be used as future booster doses. It was absolutely necessary to establish the safety and immunogenicity of the new vaccine platform technology in the Indian population.”

Ready for roll-out

Gennova already has a license to manufacture and sell from the CDSCO.

Gennova Biopharmaceuticals Chief Operating Officer Samit Mehta said that talks are underway with the government on whether they would like to procure and deploy or whether the firm can reach out to the private market. On pricing, he added: “Compared to our peers we will be competitive.”

Authorities at Gennova said that they are actively engaged in talks with at least 25-30 countries that had evinced interest in the new vaccine.
“Gennova produced 70 lakh doses taking a risk….Now that we have received the EUA, we can ship the material soon after completing all formalities. The current production capacity is around 40-50 lakh doses per month which will be upgraded to 2-3 fold soon,” Dr Singh said.

Cholera (The Asian Age: 20220630)