



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Wednesday 20240327

Precision cardiology

How precision cardiology with personalised care can help India tackle CVD burden (The Tribune: 20240327)

<https://www.tribuneindia.com/news/health/how-precision-cardiology-with-personalised-care-can-help-india-tackle-cvd-burden-604310>

In the individualised approach, interventional cardiologists use advanced imaging and functional techniques to assess necessity, location, and nature of intervention

Precision cardiology, which integrates genetics and data science, can offer personalised treatment and help India fight the significant burden of cardiovascular disease, said health experts on Tuesday.

The World Health Organization states that cardiovascular diseases (CVD) account for 27 per cent of total deaths in India every year, and 45 per cent of deaths occur in the 40-69 year age group.

“The incidence of heart disease is escalating rapidly due to factors such as sedentary lifestyles, poor dietary habits, tobacco use, excessive alcohol intake, and poor sleep patterns. These behaviours contribute to high blood pressure, elevated cholesterol levels, and the development of diabetes,” Dr Ziad Ali, Director Interventional & Structural Cardiology, St Francis Hospital and Heart Center, Roslyn, New York, told IANS.

The doctor noted that although preventive steps can be taken, once the condition establishes itself, it necessitates proper management and intervention -- here comes the role of precision cardiology. Precision Cardiology integrates a person's genetics, lifestyle, and environmental exposures to prevent, diagnose, and treat CVDs, the health experts explained.

“Precision cardiology is an emerging approach that integrates the latest advancements in molecular biology, genetics, and data science with traditional cardiology to deliver highly personalised care

tailored to an individual's genetic makeup, lifestyle, and other unique characteristics," Dr Ziad said.

"India faces unique challenges due to its high CVD burden combined with a diversity of socio-economic conditions and a large rural population. Precision cardiology can serve as a bridge in this gap by delivering customised care and incorporating advanced techniques that cater to the needs of the individual, despite these challenges," he added.

In the individualised approach, interventional cardiologists use advanced imaging and functional techniques to assess the necessity, location, and nature of the intervention.

This majorly includes diagnostic tools like optical coherence tomography (OCT), and fractional flow reserve (FFR), which enable early detection of vulnerable plaque that's at risk of rupturing, the direct mechanism of heart attacks; and also guide the placement and optimisation of stents, to treat blockages before they lead to a heart attack.

These "technologies can flag at-risk patients of heart attacks years before they occur. They include incorporating AI into conventional investigations to predict disease patterns, genetic testing, identifications of inflammatory biomarkers, telemedicine and remote monitoring," Dr Atul Mathur - Executive Director, Interventional Cardiology and Chief of Cath Lab, Fortis Escorts Heart Institute, told IANS.

"Precision Cardiology also explains to us why different patients having the same disease respond differently to interventions. It can tackle the cardiac care challenges of the 21st century Indians through early risk assessment, personalised treatment plans and optimisation of resources," he added.

Swine fever virus

IIT Guwahati transfers key tech for 1st recombinant vax for swine fever virus (The Tribune: 20240327)

<https://www.tribuneindia.com/news/health/iit-guwahati-transfers-key-tech-for-1st-recombinant-vax-for-swine-fever-virus-604309>

Currently, the vaccine is under the process of filing a test and analysis licence

Researchers at the Indian Institute of Technology (IIT) Guwahati on Tuesday announced the transfer of key technology for the commercial rollout of India's first recombinant vaccine for swine fever virus in pigs and wild boars.

Swine fever is a highly contagious disease among pigs and poses a severe threat with a very high mortality rate. It, however, does not affect humans.

In India, the disease has been frequently observed, particularly in the northeastern states, as well as in Bihar, Kerala, Punjab, Haryana, and Gujarat, among others.

“This technology entails a recombinant vector vaccine designed specifically for combating the classical swine fever virus in pigs and wild boars, filling a significant gap in India's vaccine landscape. This first recombinant virus-based vaccine for pigs harnesses a reverse genetic platform pioneered and refined at IIT Guwahati,” the statement said.

Reverse genetics is a potent method widely used to develop vaccines against influenza. It can also be used for developing vaccines for animal diseases.

A team of researchers from the Department of Biosciences and Bioengineering at IIT Guwahati, and Assam Agricultural University in Guwahati jointly started the work on the vaccine in 2018-2019. Their research findings have been published in two journals: *Process Biochemistry* and *Archives of Virology*.

“Currently, the vaccine is under the process of filing a test and analysis licence,” IIT Guwahati said.

Viral genomes

Humans frequently spread viruses to wild and domestic animals, reveals study (The Tribune: 20240327)

Researchers use methodological tools to analyse nearly 12 million viral genomes

<https://www.tribuneindia.com/news/health/humans-frequently-spread-viruses-to-wild-and-domestic-animals-reveals-study-604273>

Humans frequently spread viruses to wild and domestic animals, increasing their risk of disease, finds a study, challenging the long-held theory that humans are a sink for viruses.

Humans have never been considered a source of virus, and human-to-animal transmission of viruses has received far less attention, revealed an analysis of viral genomes by researchers at the University College London.

“When animals catch viruses from humans, this can not only harm the animal and potentially pose a conservation threat to the species, but it may also cause new problems for humans by impacting food security if large numbers of livestock need to be culled to prevent an epidemic, as has been happening over recent years with the H5N1 bird flu strain,” said lead author Cedric Tan, a doctoral student at UCL’s Genetics Institute and Francis Crick Institute.

“Additionally, if a virus carried by humans infects a new animal species, the virus might continue to thrive even if eradicated among humans, or even evolve new adaptations before it winds up infecting humans again.

“Understanding how and why viruses evolve to jump into different hosts across the wider tree of life may help us figure out how new viral diseases emerge in humans and animals,” Tan said.

For the study, published in the journal Nature Ecology and Evolution, the team used methodological tools to analyse the nearly 12 million viral genomes.

Using the data, they also reconstructed the evolutionary histories and past host jumps of viruses across 32 viral families to search for viral genomes acquired mutations during host jumps.

The researchers found that “roughly twice as many host jumps were inferred to be from humans to other animals (known as anthroponosis) rather than the other way round. This pattern was consistent throughout most viral families considered. Additionally, they found even more animal-to-animal host jumps that did not involve humans.”

“We should consider humans just as one node in a vast network of hosts endlessly exchanging pathogens, rather than a sink for zoonotic bugs,” said co-author Professor Francois Balloux from UCL Genetics Institute.

Medication and psychosocial treatment

Medication and psychosocial treatment can help children with ADHD, find researchers (The Tribune: 20240327)

<https://www.tribuneindia.com/news/health/medication-and-psychosocial-treatment-can-help-children-with-adhd-find-researchers-604272>

The findings, published in the journal Pediatrics, reveal the best-suited method to effectively diagnose and treat ADHD

Medication and psychosocial treatment together can help children with Attention Deficit Hyperactivity Disorder (ADHD)—a neurodevelopmental disorder—to get better, according to a review of studies, published on Monday.

Researchers led by those from the University of Southern California (USC) reviewed more than 23,000 publications on ADHD.

The results, published in two companion papers in the journal *Pediatrics*, reveal the best-suited method to effectively diagnose and treat ADHD.

so pointed out gaps in the research, including how best to monitor the condition's progression over time.

“Parents, teachers and providers need evidence-based information about ADHD. We included only the most robust studies in our review, which enables us to make strong evidence statements,” said Susanne Hempel, Professor of clinical population and public health sciences at the USC's Keck School of Medicine.

Currently ADHD is diagnosed using many tools, “including parent and teacher rating scales, patient self-reports, neuropsychological tests, EEG approaches, imaging, biomarkers, activity monitoring and observation.”

The team also rigorously tested many medications for ADHD, which include stimulants and non-stimulants, as well as psychosocial approaches, such as behaviour modification.

Cognitive training, neurofeedback, physical exercise, nutrition and supplements, parent support, and school interventions were the other non-drug treatments that the researchers analysed for the study.

“Medications have the strongest evidence for improving not only ADHD symptoms, but also other problems that often accompany ADHD, such as oppositional and disruptive behaviours,” said Bradley Peterson, Director, Institute for the Developing Mind at Children's Hospital Los Angeles (CHLA) and the lead author of the review.

“The overarching takeaway: ADHD is treatable. There are lots of studies that can show us that children absolutely can get better,” Hempel said.

Dementia

Managing diabetes could help prevent dementia, reveals study (The Tribune: 20240327)

Indian-origin researcher finds that diabetes and Alzheimer's disease are strongly linked

<https://www.tribuneindia.com/news/health/managing-diabetes-could-help-prevent-dementia-reveals-study-603997>

An Indian-origin scientist in his research has found that reducing the risk of dementia in Alzheimer's is possible by keeping diabetes well controlled or avoiding it in the first place.

Narendra Kumar, an associate professor at the US-based Texas A&M University, who led the study published in the journal 'American Society for Biochemistry and Molecular Biology', found that diabetes and Alzheimer's disease are strongly linked.

"By taking preventative or amelioration measures for diabetes, we can prevent or at least significantly slow down the progression of the symptoms of dementia in Alzheimer's disease," he said.

Diabetes and Alzheimer's are two of the fastest-growing health concerns globally. Diabetes alters the body's ability to turn food into energy and affects an estimated one in 10 US adults. Alzheimer's is among the top 10 leading causes of death in the US, according to the study.

The researchers investigated how diet might affect the development of Alzheimer's in people with diabetes.

They discovered that a high-fat diet reduces the expression of a specific protein in the gut called Jak3. Mice without this protein showed a chain of inflammation from the intestine to the liver and then to the brain. As a result, the mice displayed Alzheimer's-like symptoms in the brain, along with cognitive impairment.

The researchers believe that the pathway from the gut to the brain involves the liver.

"Liver being the metaboliser for everything we eat, we think that the path from gut to the brain goes through the liver," Kumar said.

They have been studying the functions of Jak3 for a long time and have found that changes in the expression of Jak3 due to food can lead to leaky gut, resulting in chronic inflammation, diabetes,

reduced brain ability to clear toxic substances, and dementia-like symptoms seen in Alzheimer's disease.

Breast cancer

Higher burden of breast cancer in Tamil Nadu, Telangana, Karnataka, Delhi: ICMR study (The Tribune: 20240327)

<https://www.tribuneindia.com/news/health/higher-burden-of-breast-cancer-in-tamil-nadu-telangana-karnataka-delhi-icmr-study-603996>

The burden of breast cancer among Indian women in 2016 was estimated to be at 515.4 DALYs per 1,00,000 women after age standardisation

Higher burden of breast cancer in Tamil Nadu, Telangana, Karnataka, Delhi: ICMR study

Photo for representational purpose only. File

Tamil Nadu, Telangana, Karnataka and Delhi had a higher burden of breast cancer than eastern and northeastern states, according to an ICMR study that also projected a “substantial rise” in the disease burden in India by 2025.

The study, published earlier this month, focused on India's breast cancer burden at the state level from 2012 to 2016 in terms of years of life lost (YLLs), years lived with disability (YLDs), and disability-adjusted life years (DALYs), and to project the burden for 2025.

The burden of breast cancer among Indian women in 2016 was estimated to be at 515.4 DALYs per 1,00,000 women after age standardisation.

The burden metrics at the state level exhibited substantial heterogeneity.

“Tamil Nadu, Telangana, Karnataka and Delhi had a higher burden of breast cancer than states in the eastern and northeastern regions. The projection for 2025 indicates a substantial increase, reaching 5.6 million DALYs,” the Indian Council of Medical Research (ICMR) study said.

DALYs are a measure of overall disease burden, expressed as the number of years lost due to ill-health, disability or early death.

Rural women are less likely to develop breast cancer than their urban counterparts and age-standardised incidence rates are higher in urban and metro areas, with Hyderabad, Chennai, Bengaluru and Delhi topping the list among Indian cities.

According to the projections, the burden of female breast cancer in India in 2025 is expected to be 5.6 million DALYs. Premature deaths due to breast cancer (YLLs) would contribute 5.3 million DALYs to the total burden, with the remaining due to disability (YLDs).

This study examined the state-wise burden of female breast cancer in India in 2016 using data from 28 population-based cancer registries across the country under the National Cancer Registry Programme (NCRP).

In 2018, age-standardised breast cancer incidence among women in south central Asia was 25.9 per 1,00,000 women, according to a Global Cancer Observatory (GLOBOCAN) study.

According to a Global Burden of Diseases (GBD) study, the age-standardised breast cancer rate in south central Asia in 2016 was 21.6 per 1,00,000 women. These studies estimated the national and sub-national burdens using a wide range of data sources.

“However, our study only used data from population-based cancer registries under NCRP, which are mainly in urban areas. Rural women are less likely to develop breast cancer than their urban counterparts and age-standardised incidence rates are higher in urban and metro areas, with Hyderabad, Chennai, Bengaluru and Delhi as the leading Indian cities,” the researchers said.

Urban factors such as a sedentary lifestyle, high obesity rates, delayed age of marriage and childbirth and minimal breastfeeding have been attributed to a higher burden of breast cancer in urban areas.

“This is supported by our study’s findings, which indicate that urban registries such as Chennai, Bengaluru and Delhi had higher incidence rates than rural registries,” the researchers said.

Socioeconomic factors significantly shape the cancer burden, affecting access to health care, preventive measures and treatment outcomes.

Individuals with lower socioeconomic status encounter barriers to timely and quality health care, leading to delayed cancer detection, compounded by limited resources and health literacy, the study highlighted.

Occupational exposures and financial strain heighten cancer risks and impact treatment accessibility while geographical and psychosocial disparities further complicate the issue.

Research priorities may also inadvertently overlook cancers prevalent in lower socioeconomic groups.

Recognising and addressing these disparities is crucial for equitable cancer control, ensuring universal access to prevention, early detection and treatment, the study said.

“In India, the correlation between cancer prevalence and socioeconomic inequalities is evident, emphasising the need to reevaluate resource allocation and enhance access to health care and social support systems,” it said.

The increasing incidence of breast cancer in India underscores the urgent need for comprehensive awareness campaigns and screening programmes, it emphasised.

A significant concern is that a majority of women diagnosed with breast cancer in the country present with advanced stages or metastatic disease, suggesting a lack of awareness.

“India faces remarkably low rates of breast cancer screening, encompassing self-breast examination and mammography,” the study said.

Middle ear infection

Middle ear infection more prevalent post Covid (The Times of India: 20240327)

<https://timesofindia.indiatimes.com/life-style/health-fitness/health-news/middle-ear-infection-more-prevalent-post-covid/articleshow/108799501.cms>

Otitis media cases rise post-covid due to adenoid infection. Common in children with risky anatomy. Inflammation can lead to severe complications, including ear damage and hearing loss. Screening for adenoid hypertrophy recommended.

Middle ear infection more prevalent post Covid

Otitis media, also commonly known as a middle ear infection, has become more common in post covid era due to increase in adenoid infection and hypertrophy. There is a 25-30% increase in such cases but direct relation with covid virus is yet to be established. It can occur at any age, but it is most common in young children. This is because the Eustachian tube, which is the tube that connects the middle ear to the back of the nose and throat, is shorter and more horizontal in children than in adults.

This makes it easier for bacteria and viruses to travel from the nose and throat to the middle ear.

Otitis media is an inflammation or infection of the middle ear, which can lead to severe ear complications. The middle ear is a small air-filled cavity located behind the eardrum that contains tiny bones (ossicles) that vibrate in response to sound waves. These vibrations are transmitted to the inner ear, which converts them into nerve signals that are sent to the brain, allowing us to hear.

cov (6)

The main reasons behind otitis media are recurrent cold, allergies, viral infections and adenoiditis and adenoid hypertrophy. If not recognized on time, this can damage ear drum and this might convert into chronic ear disease leading to hearing loss, ear discharge and other serious complications. Children between the age group of 3-6 years must be regularly screened for silent fluid accumulation in middle ear especially children with adenoid hypertrophy and recurrent cold and cough and allergies.

Acute otitis media (AOM): This is the most common type of ear infection. It develops quickly and causes sudden ear pain, especially in young children who may not be able to verbalize their symptoms. Other symptoms of acute otitis media also include fever, ear drainage, difficulty sleeping, and hearing loss.

Otitis media with effusion (OME): This type of ear infection occurs when fluid builds up in the middle ear but there is no longer an active infection. Otitis media with effusion can cause temporary hearing loss and a feeling of heaviness in the ear.

Chronic suppurative otitis media (CSOM): This is a long-term infection of the middle ear that can damage the eardrum and the tiny bones in the middle ear. Symptoms of chronic suppurative otitis media include persistent drainage from the ear, hearing loss, and tinnitus (ringing in the ear).

Mental health

Can AI help in navigating mental health? (The Hindu: 20240327)

<https://www.thehindu.com/sci-tech/health/can-ai-help-in-navigating-mental-health/article67995754.ece>

How can natural language processing programmes offer personalised and immediate care? How can bias be mitigated in these chatbots? Do they help clinicians as well?

The story so far: We live in a world where therapy is a text away. Natural language processing (NLP), a branch of Artificial Intelligence (AI), enables computers to understand and interpret human language that mirrors human comprehension. In mental healthcare, we are already seeing a rapid evolution of use cases for AI with affordable access to therapy and better support for clinicians.

External and internalised stigma persists across demographics and countries. Through text-based platforms and virtual mental health assistants, NLP programs provide privacy and anonymity that can improve help-seeking behaviour. For users, the chatbot can support them in reframing thoughts, validating emotions and providing personalised care, especially in the absence of human support. Not only is this beneficial when a therapist is not accessible, but it also helps improve patient health outcomes just as well as in-person care. Mental health treatment requires continuity of care to take a more holistic approach and reduce instances of relapse. For example, digital therapy assistants can help point you to resources for healthier coping in instances of distress, grief, and anxiety. Since these chatbots are scalable, cost-effective, and available 24x7, they could therefore be integrated into existing health programs. Additionally, companies building chatbots

must proactively expand the scope of service delivery through partnerships and collaborations for follow-up services such as referrals, in-person treatment, or hospital care, where needed.

Anti-swine fever vaccine

IIT-Guwahati transfers tech for first anti-swine fever vaccine

The recombinant vector vaccine has been designed specifically for combating the classical swine fever virus in pigs and wild boars (The Hindu: 20240327)

<https://www.thehindu.com/sci-tech/health/iit-guwahati-transfers-tech-for-first-anti-swine-fever-vaccine/article67993636.ece>

The vaccine work was started in 2018-2019 through collaborative efforts between researchers from IIT-G's Department of Biosciences and Bioengineering and the Assam Agricultural University in Guwahati.

The vaccine work was started in 2018-2019 through collaborative efforts between researchers from IIT-G's Department of Biosciences and Bioengineering and the Assam Agricultural University in Guwahati. | Photo Credit: iitg.ac.in

GUWAHATI The Indian Institute of Technology-Guwahati (IIT-G) has transferred a first-of-its-kind vaccine technology to BioMed Pvt. Ltd., a manufacturing company specialising in vaccines.

This technology entails a recombinant vector vaccine designed specifically for combating the classical swine fever virus in pigs and wild boars, filling a significant gap in India's vaccine landscape. This vaccine harnesses a reverse genetic platform pioneered and refined at IIT-G, a statement from the institute said on March 26.

Organ donors

To curb illegal trade, Health Ministry tells States to plug gaps in compiling data of organ donors

The details of deceased/living donors are essential to monitor and prevent ‘commercial’ dealings in organs (The Hindu: 20240327)

<https://www.thehindu.com/sci-tech/health/organ-transplants-health-ministry-concerned-over-states-not-compiling-donors-data/article67987458.ece>

A harvested heart is carried to the Government medical College in Kottayam for a heart transplant surgery on March 25, 2023. Photo: Special Arrangement

A harvested heart is carried to the Government medical College in Kottayam for a heart transplant surgery on March 25, 2023. Photo: Special Arrangement

The Union Ministry of Health and Family Welfare (MoHFW) has expressed concern over some States not compiling living and deceased donors’ data, which were essential to monitor the implementation of the organ transplantation programme and prevent commercial dealings in organs.

In an advisory to all States recently, the MoHFW noted the National Organ and Tissue Transplant Organisation (NOTTO), established under the Transplantation of Human Organs and Tissues Act (THOTA), 1994, was an apex organisation to provide for an efficient and organised system of organ procurement and distribution in the country, and maintain a national registry of donors and recipients of organs and tissues, sources in the Transplant Authority of Tamil Nadu said.

Intermittent fasting

Health experts caution against diet fads and intermittent fasting (The Hindu: 20240327)

<https://www.thehindu.com/sci-tech/health/health-experts-caution-against-diet-fads-and-intermittent-fasting/article67987140.ece>

The time between the major meals of the day should be more than three hours and never exceed six, Tanuja Nesari, Director, All India Institute of Ayurveda, said

The time between the major meals of the day should be more than three hours and never exceed six, Tanuja Nesari, Director, All India Institute of Ayurveda, said while discussing the preliminary results of a research paper on time-restricted eating, popularly known as intermittent fasting, which notes that this form of diet plan is linked to 91% increase in risk of death from heart disease.

The report came from an abstract presented recently at an American Heart Association conference in Chicago. While the study has not yet been published in a peer-reviewed journal, health experts in India have also cautioned against intermittent fasting and new diet fads.

Clinical trials of Spanish tuberculosis vaccine

Clinical trials of Spanish tuberculosis vaccine MTBVAC begin in India(The Hindu: 20240327)

<https://www.thehindu.com/sci-tech/health/clinical-trials-of-spanish-tuberculosis-vaccine-mtbvac-begin-in-india/article67987090.ece>

Bharat Biotech has started Phase 3 trials of the first live attenuated vaccine of Mycobacterium TB isolated from a human strain, Spanish biopharma firm Biofabri has completed Phase 1-2 in other countries

Vaccine maker Bharat Biotech is conducting the trials in partnership with Spanish biopharmaceutical company Biofabri. File

Vaccine maker Bharat Biotech is conducting the trials in partnership with Spanish biopharmaceutical company Biofabri. File

Clinical trials of Spanish tuberculosis (TB) vaccine MTBVAC have begun in India.

Vaccine maker Bharat Biotech is conducting the trials in partnership with Spanish biopharmaceutical company Biofabri that is responsible for clinical and industrial development of the vaccine developed in the laboratory of the University of Zaragoza with Dr. Brigitte Gicquel of the Pasteur Institute, Paris.

Cholesterol

Why is cholesterol rising among the young? (Indian Express: 20240327)

<https://indianexpress.com/article/health-wellness/hdy-cholesterol-rising-among-young-9225727/>

Dr Suranjit Chatterjee, Senior Consultant, Internal Medicine, Indraprastha Apollo Hospital, New Delhi, on the need for early screening.

Most importantly, the cholesterol buildup could have begun at a younger age, in the teens even, but the patients have not felt any anomaly until they crossed into their 20s. (Photo: Getty Images/Thinkstock)

Many of my patients in their early 20s do not believe that they have high cholesterol till they see their lipid profile reports. Cholesterol has long been associated with older age groups but a worrying trend has emerged in recent years – a significant rise in cholesterol levels among the younger population. This silent health issue is often overlooked as high cholesterol rarely presents noticeable symptoms until it's too late.

Most importantly, the cholesterol buildup could have begun at a younger age, in the teens even, but the patients have not felt any anomaly until they crossed into their 20s. That's why you have so many youngsters report heart attacks caused by plaques, a result of high cholesterol in their blood.

weight gain

Can eating late result in weight gain? (Indian Express: 20240327)

<https://indianexpress.com/article/health-wellness/can-eating-late-result-in-weight-gain-9224577/>

Nutritionist Pooja Udeshi from Kokilaben Dhirubhai Ambani Hospital, Mumbai, on how you can manage your diet despite late working hours

weight gain Research has shown that carbohydrates consumed in the evening result in greater blood sugar spikes than those consumed earlier in the day. (File photo)

Written by Pooja Udeshi

Are you one of those who simply cannot have dinner early because of work commitments and worry if eating late may trigger weight gain? But in the end a calorie is a calorie, regardless of when you eat it, and what causes weight gain is simply eating more calories than you can burn. This is what several experts call the calorie in/calorie out theory of weight control. So keep a watch on what and how much you are eating.

Dual kidney transplantations (DKT),

At AIIMS, 78-year-old donates both kidneys to 51-year-old: Why this procedure can ease India's kidney donation waitlist(Indian Express: 20240327)

<https://indianexpress.com/article/health-wellness/at-aiims-78-year-old-donates-both-kidneys-to-51-year-old-why-this-procedure-can-ease-indias-kidney-donation-waitlist-9222513/>

Understanding how dual kidney transplantations works

Dual kidney transplantations (DKT), where doctors transplant two kidneys into the recipient simultaneously, benefit, especially individuals undergoing dialysis and suffering from kidney failure. (Source: Getty Images/Thinkstock)

Dual kidney transplantations (DKT), where doctors transplant two kidneys into the recipient simultaneously, benefit, especially individuals undergoing dialysis and suffering from kidney failure. (Source: Getty Images/Thinkstock)

AIIMS Delhi recently achieved a significant milestone by conducting its first-ever dual kidney transplant on a 51-year-old woman undergoing dialysis. The recipient was fortunate to receive kidneys from the family of a 78-year-old woman who tragically suffered a severe head injury from a fall down the stairs.

Dual kidney transplantations (DKT), where doctors transplant two kidneys into the recipient simultaneously, benefit, especially individuals undergoing dialysis and suffering from kidney failure. Here are four crucial aspects of this surgery.

Heart attacks

Can weight loss drugs prevent heart attacks? Know what US FDA approval means (Indian Express: 20240327)

<https://indianexpress.com/article/health-wellness/can-weight-loss-drugs-prevent-heart-attacks-know-what-us-fda-approval-means-9221713/>

Dr Ranjan Shetty, HOD & Consultant, Interventional Cardiology, Manipal Hospital, Bengaluru, explains the link between Semaglutide and heart health

Clinically speaking, obesity is a major risk factor for heart disease and while no weight loss is possible with a pill, admittedly it gives the first necessary push to people keen to move closer to their goal. (Photo by Thinkstock Images)

Clinically speaking, obesity is a major risk factor for heart disease and while no weight loss is possible with a pill, admittedly it gives the first necessary push to people keen to move closer to their goal. (Photo by Thinkstock Images)

What does the US FDA approval of the injectable weight-loss drug Semaglutide (Wegovy) to prevent heart attacks and stroke mean? This means that the drug authorities have extended the use of Wegovy to non-diabetics who may be grossly overweight as a primary prevention therapy against cardiac disease.

This followed trials that proved weight reduction with the use of this drug was indeed therapeutic in obese patients, reducing their cardiac mortality and morbidity by 20 per cent. Additionally, the trial found that Semaglutide also reduced a person's cardiovascular death risk by 15 per cent and death from any cause by 19 per cent, compared to those who took a placebo.

vax for swine fever virus

IIT Guwahati transfers key tech for 1st recombinant vax for swine fever virus (New Kerala: 20240327)

<https://www.newkerala.com/news/2024/18123.htm>

Researchers at the Indian Institute of Technology (IIT) Guwahati on Tuesday announced the transfer of key technology for the commercial rollout of India's first recombinant vaccine for swine fever virus in pigs and wild boars.

Swine fever is a highly contagious disease among pigs and poses a severe threat with a very high mortality rate. It, however, does not affect humans.

In India, the disease has been frequently observed, particularly in the northeastern states, as well as in Bihar, Kerala, Punjab, Haryana, and Gujarat, among others.

The institute in a statement said that the pioneering vaccine technology has been "successfully transferred to BioMed" -- a manufacturing company specialising in high-quality vaccines.

"This technology entails a recombinant vector vaccine designed specifically for combating the classical swine fever virus in pigs and wild boars, filling a significant gap in India's vaccine landscape. This first recombinant virus-based vaccine for pigs harnesses a reverse genetic platform pioneered and refined at IIT Guwahati," the statement said.

Reverse genetics is a potent method widely used to develop vaccines against influenza. It can also be used for developing vaccines for animal diseases.

A team of researchers from the Department of Biosciences and Bioengineering at IIT Guwahati, and Assam Agricultural University in Guwahati jointly started the work on the vaccine in 2018-2019. Their research findings have been published in two journals: *Process Biochemistry* and *Archives of Virology*.

Allergic asthma

Researchers discover new approach to treat allergic asthma (New Kerala: 20240327)

<https://www.newkerala.com/news/2024/18221.htm>

Researchers revealed that a protein known as Piezo1 stops allergens from hyperactivating a kind of immune cell in the lungs. The work implies that activating Piezo1 could be a new therapeutic approach to lowering lung inflammation and treating allergic asthma.

Type 2 innate lymphoid cells (also known as ILC2s) are immunological cells found in the lungs, skin, and other parts of the body. When allergens enter the lungs, ILC2s activate and create proinflammatory signals that drive the recruitment of other immune cells. Unchecked, this can lead to excessive inflammation.

Findings of the researchers from University of Southern California's Keck School of Medicine were published in journal of Experimental Medicine.

"Given the importance of ILC2s in allergic asthma, there is an urgent need to develop novel mechanism-based approaches to target these critical drivers of inflammation in the lungs," says Omid Akbari, Professor of Immunology and Professor of Medicine at USC's Keck School of Medicine.

Akbari and colleagues discovered that, when they are activated by an allergen, ILC2s start to produce a protein called Piezo1 that can limit their activity. Piezo1 forms channels in the outer membranes of cells that open in response to mechanical changes in the cell's environment, allowing calcium to enter the cell and change its activity.

Akbari's team found that, in the absence of Piezo1, mouse ILC2s became more active than normal in response to allergenic signals, and the animals developed increased airway inflammation. In contrast, treatment with a drug called Yoda1 that switches on Piezo1 channels reduced the activity of ILC2s, decreased airway inflammation, and alleviated the symptoms of allergen-exposed mice. The group's observations suggest a significant role for Piezo1 channels in ILC2 metabolism, as treatment with Yoda1 reduced ILC2 mitochondrial function and rewired the cells' energy source.

Finally, the researchers determined that human ILC2s also produce Piezo1, and so they tested the effects of Yoda1 on mice whose ILC2s had been replaced with human immune cells.

"Remarkably, treatment of these humanized mice with Yoda1 reduced airway hyperreactivity and lung inflammation, suggesting that Yoda1 may be used as a therapeutic tool to modulate ILC2 function and alleviate the symptoms associated with ILC2-dependent airway inflammation in humans," Akbari says. "Future studies are therefore warranted to delineate the role of Piezo1 channels in human patients with asthma and develop Piezo1-driven therapeutics for the treatment of allergic asthma pathogenesis."

Childhood Sedentariness

Study finds how childhood sedentariness accelerates premature vascular damage (New Kerala: 20240327)

<https://www.newkerala.com/news/2024/18224.htm>

According to a new study, increased sedentary time beginning in childhood is related with deteriorating arterial stiffness, a surrogate for premature vascular damage. However, light physical activity may help to minimise the risk.

The research was undertaken in partnership with Oxford University, the Universities of Bristol and Exeter, and the University of Eastern Finland, and the findings were published in *Acta Physiologica*.

An prior study using the same data found that between childhood and young adulthood, sedentary time increased from around 6 to 9 hours per day, increasing the risk of fat obesity, dyslipidaemia, inflammation, and an enlarged heart. The researchers also identified arterial stiffness as a novel risk factor for childhood and teenage obesity, insulin resistance, hypertension, metabolic syndrome, and early heart

Aging also worsens arterial stiffness. Adult studies suggest that high arterial stiffness as opposed to natural stiffening increases the risk of premature death by 47%. So far it has remained unclear if sedentariness increases arterial stiffness independent of aging and known cardiometabolic risk factors.

Light physical activity (LPA) is now emerging as an effective approach to reversing the deleterious effect of childhood sedentariness. However, whether long-term exposure to LPA from childhood

reduces arterial stiffness has not been examined. This is because only a few studies have repeatedly measured arterial stiffness on a large scale in healthy young populations.

The current study is the largest and the longest follow-up accelerometer-measured movement behaviour and arterial stiffness study in the world using the University of Bristol's Children of the 90s data. The study included 1339 children followed up from 11 to 24 years of age. They wore accelerometer devices on their waist at ages 11, 15, and 24 years for 4-7 days and had arterial stiffness measurements at ages 17 and 24 years. Their fasting blood samples were repeatedly measured for glucose, insulin, high-density lipoprotein cholesterol, low-density lipoprotein cholesterol, triglyceride, and high-sensitivity C-reactive protein. Blood pressure, heart rate, smoking status, socio-economic status, and family history of cardiovascular disease were controlled for in the analyses.

Arterial stiffness is determined by carotid-femoral pulse wave velocity. During the 13-year follow-up, increased sedentary time from 6 to 9 hours per day accelerated this velocity by 10 percent indicating increased stiffness, and one in a thousand adolescents was estimated to have severe vascular damage. On the other hand, engaging in LPA of at least 3 hours per day reversed arterial stiffness and vascular damage. Moderate-to-vigorous physical activity (MVPA) did not reduce arterial stiffness, but slightly increased it, due to the physiological vascular wall adaptation caused by an increase in muscle mass. However, the MVPA-induced increase in arterial stiffness was at least three times less than that caused by sedentary time.

"Our recent studies appear to emphasize that childhood sedentariness is more dangerous to health than previously thought, " says Andrew Agbaje, an award-winning physician and associate professor (docent) of clinical epidemiology and child health at the University of Eastern Finland.

"Sedentariness is the root cause of several disease risk factors such as fat obesity, high lipid levels, inflammation, and arterial stiffness. These intermediate risk factors and actual diseases can be combatted by engaging in at least 3 - 4 hours of LPA per day. Although the World Health Organization's physical activity guideline does not yet cover LPA, nonetheless, public health experts, health policymakers, health journalists and bloggers, paediatricians, and parents should encourage kids to participate in LPA daily."

Food and Nutrition

कैंसर को शरीर में घुसने नहीं देती ये 10 चीजें, वैज्ञानिकों का दावा-कैंसर कोशिकाओं का करती हैं नाश ((Navbharat Times: 20240327)

<https://navbharattimes.indiatimes.com/lifestyle/health/10-superfoods-that-can-prevent-you-from-cancer-according-to-science/articleshow/108808756.cms?story=1>

Cancer se kaise bache: कैंसर को रोकने के लिए कोई एक खास चीज तो नहीं खानी है, लेकिन कई सारे खाद्य पदार्थों में ऐसे तत्व पाए जाते हैं जो कैंसर के खतरे को कम करने में मददगार हो सकते हैं।

10 superfoods that can prevent you from cancer according to science

कैंसर को शरीर में घुसने नहीं देती ये 10 चीजें, वैज्ञानिकों का दावा-कैंसर कोशिकाओं का करती हैं नाश

How to prevent Cancer: कैंसर से बचने के उपाय, कैंसर से बचाव के तरीके, कैंसर से बचने के लिए क्या खाना चाहिए, कैंसर से बचने के लिए क्या करें? यह ऐसे सवाल हैं, जिनका जवाब दुनिया का हर इंसान जानना चाहेगा। कैंसर एक बहुत ही गंभीर और जानलेवा बीमारी है जिसके कई प्रकार हैं। हर कैंसर के कारण, लक्षण और गंभीरता अलग-अलग होती है।

कैंसर की रोकथाम के क्या उपाय हैं? एक्सपर्ट्स मानते हैं कि कैंसर का देरी से पता चलता है जिस वजह से इसे रोकना थोड़ा मुश्किल होता है। हालांकि आप अपनी डाइट में बदलाव करके कैंसर के जोखिम को कम कर सकते हैं। आइए जानते हैं ऐसे ही कुछ सुपरफूड्स के बारे में जिन्हें आप अपनी डाइट में शामिल कर सकते हैं और विज्ञान भी इनकी ताकत को मानता है।

अमेरिकन इंस्टीट्यूट ऑफ कैंसर (Ref) के अनुसार, विटामिन, मिनरल, फाइबर और एंटीऑक्सीडेंट से भरपूर फल और सब्जियां कैंसर की रोकथाम में महत्वपूर्ण भूमिका निभाती हैं। अपनी डाइट में हर तरह के रंगीन फलों और सब्जियों को शामिल करें, उदाहरण के लिए जामुन, खट्टे फल, हरी पत्तेदार सब्जियां, क्रूसिफेरस सब्जियां, टमाटर, गाजर और शिमला मिर्च आदि।

हिडन थायरॉइड

हिडन थायरॉइड को समय रहते समझें, अपनाएं ये 5 घरेलू उपाय जो इसे कर सकते हैं कम((Navbharat Times: 20240327)

<https://navbharattimes.indiatimes.com/lifestyle/health/home-remedies-for-thyroid-problems/articleshow/108808481.cms?story=6>

थायरॉइड हमारे शरीर का एक महत्वपूर्ण हार्मोन है, जिसमें गड़बड़ी होने पर कई बार इसके लक्षण नजर नहीं आते हैं। इसका समय रहते इलाज बहुत जरूरी है। इसी के साथ ही कुछ चीजों का ध्यान रखकर आप इसके खतरे को भी कम कर सकते हैं।

home remedies for thyroid problems

हिडन थायरॉइड को समय रहते समझें, अपनाएं ये 5 घरेलू उपाय जो इसे कर सकते हैं कम

हार्ट टॉक: कार्डियक हेल्थ को गहराई से समझें

डील देखें

हार्ट टॉक: कार्डियक हेल्थ को गहराई से समझें

शॉपिंग: सेल! मेगा इलेक्ट्रॉनिक्स डेज (11-१८मार्च)- 80% तक छूट प्राप्त करें

डील देखें

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क्या आप iPhone 15 जीतने के लिए लकी ड्रॉ का हिस्सा बनना चाहेंगे?

डील देखें

क्या आप iPhone 15 जीतने के लिए लकी ड्रॉ का हिस्सा बनना चाहेंगे?

थायरॉइड ग्रंथि शरीर का एक महत्वपूर्ण अंग है, जो तितली के डिजाइन का गले के अंदर और कॉलरबोन के ठीक ऊपर होती है। यह हमारे शारीरिक और मानसिक स्वास्थ्य को संतुलित रखने में मदद करती है। थायरॉइड एक तरह का एंडोक्राइन ग्लैंड है, जो हार्मोन बनाता है। यह ग्लैंड हार्मोन उत्पन्न करती है, जो मेटाबोलिज्म, रक्तचाप, मांसपेशियों का संचालन और वजन को नियंत्रित करने में महत्वपूर्ण भूमिका निभाती हैं।

नेशनल सेंटर फॉर बायोटेक्नोलॉजी इंफॉर्मेशन की एक रिपोर्ट के अनुसार थायरॉइड होने का मतलब है कि हार्मोन का निर्माण ठीक तरह से नहीं हो पा रहा है। जब किसी में थायरॉइड के लक्षण नजर नहीं आते हैं या इसके लक्षण को पहचान नहीं पाते हैं, तो इसे हिडन थायरॉइड कहते हैं। हिडेन थायरॉइड का पता लगाने के लिए इसके लक्षणों के प्रति जागरूकता जरूरी है।

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थायरॉइड के कारण

थायरॉइड के कारण

थायरॉइड होने की कोई एक वजह नहीं हो सकती है, बल्कि इसके होने के कई कारण हो सकते हैं, जैसे कि खाने में आयोडीन की कमी, ऑटोइम्यून डिजीज का शिकार होना और अगर आपका इम्यून सिस्टम आपके थायरॉइड पर हमला कर दे। इसके अलावा प्रेगनेंसी के दौरान भी कुछ महिलाओं में थायरॉइड ग्लैंड बढ़ जाता है। कैंसर जैसी गंभीर बीमारियों के होने पर भी यह ग्लैंड प्रभावित होता है।

विटामिन बी

विटामिन बी

विटामिन बी 12, थायरॉइड के सही काम के लिए महत्वपूर्ण है। विटामिन बी 12 की कमी हाइपोथायरायडिज्म के मरीजों में आमतौर पर देखी जाती है, जिसके कारण उन्हें थकावट, कम ऊर्जा और मानसिक समस्याएं हो सकती हैं। इसकी कमी को पूरा करने के लिए अपनी डाइट में रोजाना अंडा, मीट, फिश, फलियां और नट्स आदि शामिल करें।

विटामिन डी

विटामिन डी

थायरॉइड होने की एक वजह विटामिन डी की कमी भी हो सकती है। इसकी कमी को पूरा करने के लिए आपको रोजाना कम से कम 15 मिनट के लिए धूप में बैठें। इससे इम्यून सिस्टम भी मजबूत मिलती है। इसकी कमी को पूरा करने के लिए आप अपनी डाइट में डेयरी प्रोडक्ट्स, सफेद तिल, संतरे का जूस और अंडे को शामिल करें। यदि किसी के शरीर में विटामिन डी बहुत ज्यादा कम हैं, तो डॉक्टर उन्हें सप्लीमेंट भी दे सकते हैं।

नारियल का तेल

नारियल का तेल

नारियल तेल में मौजूद फैटी एसिड, खासकर मीडियम चेन ट्राइग्लिसराइड्स के कई स्वास्थ्य लाभ होते हैं। यह तेल थायरॉइड के स्वास्थ्य के लिए काफी फायदेमंद हो सकता है। इसमें मौजूद विटामिन बी थायरॉइड ग्रंथि के सही काम करने में मदद करता है। यही नहीं नारियल तेल वजन कम करने में भी मदद करता है और मेटाबॉलिज्म को बढ़ाता है।

एपल साइडर विनेगर

एपल साइडर विनेगर

शहद और पानी का सेवन थायरॉइड के स्वास्थ्य के लिए फायदेमंद हो सकता है, लेकिन यह सीधे रूप से थायरॉइड को संतुलित करने में मदद नहीं कर सकता। ये वजन को कम करता है, जिससे थायरॉइड का खतरा भी कम होता है।

बादाम

बादाम

बादाम वास्तव में सेहत के लिए बहुत फायदेमंद है और इसे थायरॉइड संबंधी समस्याओं के लिए भी उपयोगी माना जाता है। बादाम में विटामिन और मिनरल्स की उच्च मात्रा होती है, जो थायरॉइड स्वास्थ्य के लिए आवश्यक होती है।