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Novel system uses turmeric to stop cancer cell growth

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AI tool detects rare diseases from portraits, health data

June 15, 2019/The Indian Express

Scientists have developed an artificial intelligence system that uses portrait photos in combination with genetic and patient data to efficiently and reliably diagnose rare diseases. Every year, around half a million children worldwide are born with a rare hereditary disease. Obtaining a definitive diagnosis can be difficult and time consuming. In a study of 679 patients with 105 different rare diseases, scientists from the University of Bonn and the Charite – Universitätsmedizin Berlin in Germany have shown that artificial intelligence can be used to diagnose such diseases. The neural network, described in the journal *Genetics in Medicine*, automatically combines portrait photos with genetic and patient data. These include, for example, mucopolysaccharidosis (MPS), which leads to bone deformation, learning difficulties and stunted growth. Mabry syndrome also results in intellectual disability. All these diseases have in common that the facial features of those affected show abnormalities. This is particularly characteristic, for example, of Kabuki syndrome, which is reminiscent of the make-up of a traditional Japanese form of theatre. The eyebrows are arched, the eye-distance is wide and the spaces between the eyelids are long. The used software can automatically detect these characteristic features from a photo.

World Blood Donor Day 2019: Things to consider to ensure safe blood transfusion

June 15, 2019/The Indian Express

Blood transfusion means infusing blood to a needy patient. Blood has components like red blood cells, white blood cells, platelets or clotting factors, and plasma or whole blood which can be transfused to the patient as whole or according to the need. There are five types of white blood cells which play different protective roles during infection control. Platelets helps in clotting blood during wounds and injuries, while plasma helps in controlling the electrolyte balance in body. When a person comes with prescription for blood transfusion, first a tiny sample of blood is taken from him/her to confirm the prescription and test for other matching components. Once the findings have been obtained, the matching blood from storage is taken and infused into the patient depending on need.

Donors must be:

Age: 18 to 65

Weight: Above 45 (350 ml donation); above 55 (450 ml donation)

Hemoglobin: 12.5g/dl

Donation Interval: 3 months for males; 4 months for females

BP: 140/90

Pulse: 60 to 100 beats in a minute

Temperature: 37.5 C/ 98.4 F

'Every 20 seconds, 1 Indian suffers a brain-stroke'

June 15, 2019/The Tribune



Every 20 seconds, one Indian suffers a brain stroke, or three every minute, and the numbers are increasing alarmingly due to changing lifestyles. At this rate, around 1.54 million Indians are affected by strokes every year and the worse is 90 per cent of stroke patients failed to reach hospital on time. The lifetime risk of stroke after the age of 55 is 1 in 5 for women and 1 in 6 for men. These revelations came at the ongoing 3-day Fourth Congress of Society of Neuro Vascular Intervention (SNVICON) Mumbai 2019, with international participation, here on Saturday.

Prominent speakers said the message was simple but alarming - that in India, the numbers of brain strokes are increasing and it would not be wrong to say they are "life-style related". If a person suffers from problems in balancing, hoarseness in voice, sudden loss of vision, drops an object, giddiness, the first thing is to rush him to hospital without wasting time. Karapurkar cautioned that treatment for brain strokes cannot start at home and a CT Scan or a MRI Scan is necessary, and since 2015, doctors follow a protocol of CT plus angio or MRI plus angio to tackle such cases. The neurological fraternity is now contemplating launching a massive outreach programme with family doctors and general practitioners to create more awareness about how to deal with brain stroke emergencies. Some of the other prominent speakers included medicos P. S. Ramani, Dileep R. Yavagal, Orlando Diaz, Abhidha Shah, Sukhdeep Khawar, Philippe Mercier and Nitin N. Dange.

The SNVICON also saw the latest technologies being deployed for treatment of stroke. A new web device was also launched. Some of the major subjects covered are neurovascular anatomy, understanding of cerebral artery and 3D anatomy to understand a person's condition and treatment better, 3D spine vascular anatomy as a booming field with more to come.

Why do processed foods cause obesity?

June 15, 2019/The Asian Age

Chips, soda and frozen pizzas tend to be full of salt, sugar and fat, but now scientists are trying to understand if there's something else about such processed foods that might be bad for us. Already, the spread of cheap, packaged foods has been linked to rising obesity rates around the world. Yet advice to limit processed foods can seem unhelpful, given how convenient they are and the growing array of products that fall into the category. While three recent studies offer more clues on how our increasingly industrialised food supply may be affecting our health, they also underscore how difficult nutrition science and advice can be. Here's what they say. What does "processed" mean?

Whether it's curing, freezing, milling or pasteurisation, nearly all foods undergo some type of processing. Even though processing itself doesn't automatically make food unhealthy, "processed foods" is generally a negative term. To more precisely identify the processed foods of most concern, scientists came up with a system that groups foods into four categories. It's far from perfect, but the system says highly processed foods are made mostly of industrialised ingredients and additives, with little to no intact whole foods. Sodas, packaged cookies, instant noodles and chicken nuggets are some examples of highly processed foods. But also included are products that can seem wholesome, like breakfast cereals, energy bars and some yogurts.

[Asthma patients skipping doses owing to high cost: Study](#)

June 17, 2019/The Indian Express



Calling for urgent interventions to promote discussions between patients and doctors about the cost of medicines to treat asthma, a new study pointed out that out-of-pocket costs are preventing many people from taking vital asthma medication. The most commonly prescribed preventer treatments for asthma contain inhaled corticosteroids (ICS) which, if taken regularly, reduce the severity of the disease and the number of asthma-related deaths, said the researchers led by The George Institute for Global Health and the Woolcock Institute of Medical Research at UNSW Sydney. To reach this conclusion, researchers surveyed 1,400 people with asthma in Australia and found that half of the adults and one-third of the children in the study were either decreasing or skipping doses of asthma medicines to make them last longer. According to reports, at least one in every 10 asthma patient globally lives in India and the economic costs associated with asthma exceed those of TB and HIV/AIDS combined. “We know that preventer inhalers can be incredibly effective at controlling symptoms and preventing people from being hospitalised or even from dying of asthma, yet our study has found that out-of-pocket costs are preventing many from accessing medicines which can be life-saving,” said senior research fellow Tracey-Lea Laba of The George Institute.

[The rise of yoga](#)

June 17, 2019/The Hindu

Women in California are flocking to yoga classes, while men in Delhi are flocking to gyms. If this does not prove that Kalyug is here, I don't know what does. Of course, there are other signs, such as Karan Johar, but we must try not to get distracted. How have we reached this situation? When did we lose track of our roots? And what is the explanation for Baba Ramdev? The primary culprit is Bollywood. In the old days, heroes like Raj Kapoor and Dilip Kumar were slim and wiry. They were lovers more than fighters, and so were we. Of course, we had Dharmendra, but it's inconceivable that his muscles came from gymming. Whatever he may have done, it must have been Indian, and almost certainly involved desi ghee. Subsequently, Amitabh and Rajesh Khanna rose to power. Both were pleasantly normal-shaped. One was tall and gangly, while the other was lushly full hipped. The question of wanting to see either of them without their shirts on never arose. Meanwhile, down South, Rajinikanth was doing both loving and fighting, but his fighting was more about divine radiance than muscles. No amount of gymming will ever make you his equal. The rot started setting in with Salman Khan, who was man enough to take off his shirt on a regular basis. But for myself, and many people I know, the true turning point was when Shah Rukh Khan developed abs. The combination of his finely chiselled abdomen and his haunted, starving face is something that none of us have ever forgotten. Does this mean yoga is dead or dying? Not as long as Baba Ramdev is alive. There are many things that a human being can do with their abdomen, and many others which we had no idea were possible, and Baba Ramdev has done all of them. Things are looking bad, it's true. The sale of whey protein in major urban centres has outstripped the sale of baby food. Not to mention Tiger Shroff. But as I watch Baba Ramdev on YouTube, his stomach rippling, his smile heavenly, I feel confident that eventually, yoga will find a way. Shovon Chowdhury's most recent novel, Murder With Bengali Characteristics, contains a yogi, but he does not perform any miracles

Nipah resurfaces in India!

June 17, 2019/The Asian Age



Following the outbreak of the Nipah virus infection (NiV) in Kerala, Hyderabad doctors have warned that the situation could become calamitous if not dealt with seriously. The virus, which can be transmitted from animals such as pigs and fruit bats to humans, was confirmed in a 23-year-old from Kerala last week, one year after an outbreak in the state claimed 17 lives. And unlike other viruses, what makes the Nipah virus particularly worrying is that it does not have a cure, the symptoms do not show up early, and the symptoms are similar to several other viral infections. Consultant physician at Apollo, Hyderguda, Dr Shaeq Mirza cautions, “It needs to be dealt with seriously. Otherwise, it has the potential to become a big catastrophe. It can lead to a lot of casualties and morbidity, especially with schools reopening and children returning to classes.”

India is a hotbed for the disease

This is the fourth time the disease has been reported in India — two outbreaks of the virus were reported in West Bengal in 2001 and 2007, with 50 deaths reported in 71 cases (or 70 per cent) spread over the two outbreaks. Tropical weather, lack of adequate hygiene and dense populations are some of the reasons the disease has been recurring in India. “Given the density of our population, it can spread fairly quickly, especially in villages that do not have access to proper health care,” says Dr Mirza, who adds, “It’s a communicable disease, and like dengue and malaria, when it rains and things become dirty, the cases of infection rise.”

Further, he explains, “The disease starts off like a small viral fever and common cold before becoming more serious, leading to respiratory distress and in serious cases, even affecting the brain. The problem is that there is no known treatment or vaccinations. The only way out is through prevention by adopting better hygiene protocols and increasing awareness.”

Kombucha, the tea of health

June 17, 2019/Hindustan Times

The year was 221 BCE. Qin Shi Huang had already established the Qin Dynasty and was successfully reigning as the first emperor of a unified China. Lately however, he found himself gripped by an intense fear of death. Qin desperately sought the fabled ‘elixir of life’ and is known to have launched quests in its search. Legend has it that it was during this time a fermented tea was concocted and served to the emperor. It may not have been the magic potion he sought, but it came close enough. Over two millennia later, that fermented tea has captured the imagination of mindful, young Indians for the many benefits it bestows on one’s health and wellbeing. Kombucha is the go-to health drink this summer, and a number of homegrown initiatives are brewing their own artisanal batches for you.

A Taste of Health

The recipe for kombucha may be fairly simple—tea, sugar, water and SCOBY (symbiotic culture of bacteria and yeast), but its workings are what Gandhi describes as “very elegant”. The SCOBY acts on the sugar in the tea to convert it to alcohol, which in turn is turned to acetic acid that produces the fizzy, tangy flavour so unique to the original, unflavoured kombucha. What this process also does is it

packs the fermented tea with a host of nutrients, probiotics and enzymes that work wonders for your body. Wellness consultant Jia Singh says that kombucha can help protect the liver, reduce inflammation and bolster immunity. She says, “It’s a rich source of probiotics and is touted to be great for gut support. Today, most medical practitioners advocate that a healthy body begins with a healthy gut.” Anand adds that kombucha helps boost the immune system with its microflora. “It also contains Vitamin B complex that augments metabolism and Glucuronic acid that helps in detoxification.” He however, recommends that a first timer begin with 150 ml of kombucha a day and then gradually increase the consumption as your body adjusts to it.

Is your hair thinning? Your diet can be the reason

June 18, 2019/The Times of India

Hair loss can be quite depressing. To see strands of hair tangled in your comb every time you brush your hair is quite upsetting. Some people get so scared of excessive hair loss that they fear going bald. They spend a lot of money on expensive hair treatment and overpriced oils and cream, but science has an easy solution to solve your problem of hair thinning- improve your diet.

The study

As per a 2006 review of 40 years of research, a link has been found between hair loss and iron deficiency. Although, the research does not clearly establish that iron deficiency can cause hair fall. It has also been noticed that baldness or the problem of hair thinning is common in vegans or vegetarians as they do not eat animal-based food products, which are rich in iron. All in all, it cannot be ignored that hair loss is a sign of iron deficiency.

Why iron is beneficial for our body

Iron is necessary for the formation of red blood cells to form hemoglobin. This will eventually lead to the shortage of oxygen in the body, which is necessary for your hair to grow and repair itself. The deficiency of this nutrient is common in vegans and vegetarians. In such a condition, they need to eat more iron-rich food to meet their daily recommended iron intake level.

There are basically two types of iron:

- 1 Heme iron-found in animal-based food items.
- 2 Non-heme iron- found in both plant and animal-based food items.

A human body can absorb heme iron better than non-heme iron. This is the reason why vegetarians need almost double the amount of iron as compared to non-vegetarians. Broccoli, beans, dark leafy vegetables, and quinoa are some iron-rich food items.

You can also take iron supplements after consulting your doctor.

[Here's all you need to know about Acute Encephalitis Syndrome](#)

June 19, 2019/The Tribune



Acute encephalitis syndrome (AES), which has claimed more than 100 lives in Bihar's Muzaffarpur region, is a serious neurological illness that causes inflammation of the brain. Symptoms of AES, colloquially known as "chamki bukhar", may include headache, fever, confusion, stiff neck and vomiting. The disease most commonly affects children and young adults and can lead to mortality. According to the National Health Portal (NHP), viruses are the main causative agents in AES cases, although other sources such as bacteria, fungus, parasites, chemicals, toxins and non-infectious agents have also been blamed. The Japanese encephalitis virus (JEV) is a major cause of AES in India (ranging from 5-35 per cent), according to the NHP. Viruses, including herpes, influenza A, West Nile and dengue, are the some of the other causes of sporadic outbreaks of AES in India, the portal said. According to Dr Manish Mannan, head of department, Paediatrics and Neonatology in Gurgaon's Paras Hospital, there are two competing theories for the epidemic -- one, caused by heat stroke, and two, caused by a toxin in the locally-grown fruit, litchi. "It is said that malnourished children who ate litchis and went to sleep without a meal fell ill in the pre-monsoon season between 4 am to 7 am," Mannan told PTI. "People now know what encephalitis is but the root cause behind it is still unknown. Studies have been conducted across every lab to know the reason behind the near-fatal disease. The encephalitis, which happened in Muzaffarpur, is an outbreak and had happened in the past too," he added. There were more than 44,000 cases and nearly 6,000 deaths from encephalitis in India between 2008 and 2014, said a 2017 study published in The Indian Journal of Medical Research (IJMR).

[World Sickle Cell Day 2019: Know about the symptoms, diagnosis and treatment](#)

June 19, 2019/The Indian Express

Sickle cell disease (SCD) is a genetically inherited condition that affects millions worldwide. It is chronic, painful and often leads to mortality. India has the second largest number of patients suffering from the disease with the highest incidence in central India and the Jammu and Kashmir valley. Worldwide, majority of those with the condition are of African and Hispanic origins.

The number of cases has been increasing over the decades with a projected estimate of 3 to 4 lakh newborn cases, mainly in sub-Saharan Africa, between 2010 and 2050. There has been no known cure for this condition so far with most treatment methodologies aiming to manage pain and other side effects symptomatically. On the occasion of World Sickle Cell Day, which is observed every year on June 19 to raise awareness about the disease and its treatment methods, Dr Vishal Sehgal, country head, Portea Intensive & Specialty Homecare shares the symptoms of the disease and also shares the treatment needed.

The symptoms of this condition are as follows:

Anemia: While normal RBCs have a life span of 120 days, sickle cells only live for about 10-20 days, leaving the patient severely anemic. Typical signs of anemia include lack of energy and constant fatigue.

Pain: Patients have episodic pain in different parts of the body where blood circulation has been affected. Intense pain, called crises, can last for anywhere from a few days to weeks. Excruciating pain, ulcers, abnormal swelling of face, and bone damage may require immediate hospitalisation.

Slow growth: Children affected by SCD often fail to grow to their full potential with teenagers lagging behind in height and onset of puberty.

Problems with vision: Blood supply to the optic nerves and muscles may be affected in many cases, leading to blurred vision and other problems.

Low immunity: Patients suffer from frequent infections as spleen, the organ that helps fight infections, is affected in SCD. Due to low immunity, even common infections can prove to be life-threatening in people with SCD.

8 practical tips to stay protected from dengue fever

June 20, 2019/The Times of India

- 1. Stay safe from dengue:** - As soon as the monsoon season starts, we all start to worry about the mosquitoes, especially the dengue-causing one, *Aedes aegypti*. Sometimes a single bite can turn fatal. Characterized by fever, muscle pain, body aches, weakness, dengue recovery is not easy. However, there are ways you can stay protected. Here is a handy guide:
- 2. Wear full-sleeved clothing:** - Since your hands and legs are an easy target for the mosquitoes to bite you, the simplest way to safeguard yourself is to wear loose, full-sleeved clothing.
- 3. Remove standing water:** - The biggest cause for mosquitoes and germs to breed during the rainy season is when the water starts to collect, allowing them to lay eggs. So, a good preventive step would be to clean out plants, buckets and any such surface where water can stand. Also, do not over water plants where dengue mosquitoes can breed.
- 4. Plant mosquito repelling plants:** - A good way to repel the mosquitoes would be by keeping special dengue preventing plants. Tulsi plants, citronella, lemongrass would be some good options to consider.
- 5. Rely on home remedies:** - Certain ingredients found in the kitchen can act as the first line of defense in case of emergencies. A good home remedy to stay protected this dengue season is to light camphor, which is a natural mosquito repellent. Carom seeds, mixed with mustard oil can also be applied to surfaces to prevent mosquitoes from entering. Other essential oils like neem oil, lavender oil, and eucalyptus oil can also help.
- 6. Keep dustbins clean and covered:** - Dustbins and bowls covered in germs attract mosquitoes and they make you vulnerable to catching an infection. Also, regularly clean the corners of your house and places around your garden area.

8 silent signs of leukemia that you should know

June 21, 2019/The Times of India



Leukemia is a cancer of blood cells or bone marrow. It happens when there is a problem with the production of the white blood cells in the body. The type of leukemia depends on the type of blood cell that turns cancerous. Approximately 1 million people are diagnosed with this disease every year in India. Early treatment can help you to recover faster. Regardless of which type of leukemia you have, there are few subtle signs that you should know:

- 1. Fatigue and weakness:** -If you often feel exhausted and tired even after sleeping for 8 hours, then get yourself checked. Fatigue and weakness are often caused due to deficiency of red blood cells also called anemia.
- 2. Shortness of breath:** - Shortness of breath is another sign of leukemia. Being exhausted for a long time can make you weak and you may experience shortness of breath due to it.
- 3. Excessive bruising:** - Do you get bruised very easy? Unexplained bruises without any physical injury can be due to cancer of blood cells. This happens due to low platelet count or clotting issues. The purple marks will be visible in different parts of your body, especially in legs and arms.
- 4. Swollen or enlarged gums:** - Swollen gums are not always an outcome of bad oral hygiene. Increase in the size of the gums also known as gingival hyperplasia is usually found in a person suffering from acute leukemia.
- 5. Bloating:** - An enlarged spleen can be a sign of chronic or acute type of leukemia. Enlarged spleen also leads to loss of appetite, which happens when the spleen is pushed up on the stomach.
- 6. Fever or chills:** - Frequent fevers indicate an infection and a weakened immune system, which may be linked to cancer of blood cells. If you suffer from fever more than often then get yourself diagnosed.
- 7. Night Sweats:** - If you are drenched in sweats at night then talk to your doctor about it. Sweating profusely is not a normal thing. It is often caused by infections that are linked to leukemia.
- 8. Pounding headaches:** - Headaches are not always caused due to stress or tension. Frequent headaches are related to leukemia or even bleeding in the head.

Novel system uses turmeric to stop cancer cell growth

June 21, 2019/The Indian Express



A new drug delivery system using curcumin — the main ingredient in turmeric — successfully inhibits the growth of bone cancer cells, say scientists, including those of Indian origin. The system developed by researchers at the Washington State University in the US also promotes the growth of healthy bone cells. It could lead to better post-operative treatments for people with osteosarcoma, the second most prevalent cause of cancer death in children, according to the research published in the journal ACS Applied Materials and Interfaces.

Young patients with bone cancer are often treated with high doses of chemotherapy before and after surgery, many of which have harmful side effects. Turmeric has been used in cooking and as medicine for centuries in Asian countries, and its active ingredient, curcumin has been shown to have anti-oxidant, anti-inflammatory and bone-building capabilities. It has also been shown to prevent various forms of cancers, researchers said. “I want people to know the beneficial effects of these natural compounds,” said Susmita Bose, a professor at the Washington State University. “Natural biomolecules derived from these plant-based products are inexpensive and a safer alternative to synthetic drugs,” Bose said. However, when taken orally as medicine, the compound can’t be absorbed well in the body. It is metabolised and eliminated too quickly. The researchers, including Washington State University graduate student Naboneeta Sarkar, used 3D printing to build support scaffolds out of calcium phosphate.

With regards,

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