



INDIAN COUNCIL OF MEDICAL RESEARCH

Department of Health Research – Ministry of Health & Family Welfare
Government of India

Media report (2 February to 8 February 2019)
(Health News)

(Syed Adil Shamim Andrabi)
Information Interface Officer

Peritoneal cancer and its risks

February 2, 2019/The Tribune

Exercise can cut 'invisible' disease-causing fat

February 3, 2019/The Tribune

New AI tool increases accuracy of schizophrenia diagnosis

February 3, 2019/Hindustan Times

WorldCancerDay: Never ignore this one sign on your nail

February 4, 2019/The Times of India

World Cancer Day: Cervical cancer risk highest in middle-aged Indian women

February 4, 2019/Hindustan Times

Stage Zero Breast Cancer

February 4, 2019/The Hindu

WHO and vaccine group back 'critical' cervical cancer shots

February 4, 2019/The Indian Express

Liver drug may slow Parkinson's progression

February 6, 2019/The Indian Express

Kidneys grown in rats could pave way for human transplant

February 6, 2019/The Hindu

Absence of gut bacteria might influence depression: Study

February 6, 2019/The Indian Express

'Lab-grown liver' raises hopes for acute liver failure patients

February 7, 2019/The Tribune

Vitamin D may help treat lethal drug-resistant TB

February 7, 2019/The Tribune

New 'Trojan horse' drug kills cancer from inside

February 8, 2019/The Tribune

Eating walnuts may lower depression risk: Study

February 8, 2019/The Tribune

Peritoneal cancer and its risks

February 2, 2019/The Tribune

There are around 22.5 lakh estimated cancer patients in India with 11,57,294 lakh new incidences every year. There are 7,84,821 annual deaths by the dreaded disease. The scary statistics are proof enough that cancer has become quite common and can affect anyone — from common man to film stars.

In the recent past many Bollywood personalities have been afflicted with various kinds of cancer, including Manisha Koirala, Irrfan Khan, Sonali Bendre, Tahira Kashyap. The latest to fall victim to this problem is veteran actress Nafisa Ali. Ali recently shared that she is suffering from stage-3 peritoneal and ovarian cancer.

Peritoneal cancer is a rare form of cancer that develops in the peritoneum — a thin, delicate sheet that lines the inside wall of the abdomen. It covers the uterus and extends over the bladder and rectum. The peritoneum is made of epithelial cells (cells that line the surfaces of the body). By producing a lubricating fluid, the peritoneum helps the organs to move smoothly inside the abdomen. It is important to note that peritoneal cancer isn't the same as intestinal or stomach cancer, nor should it to be mistaken for tumours that spread to the peritoneum.

Signs and symptoms

Peritoneal cancer can be hard to detect in the early stages. The symptoms are vague and hard to pin-point, but when clear symptoms do occur, the disease has often progressed and moved on to second or third stage. Many of the symptoms are due to build-up of fluid in the abdomen. Peritoneal cancer symptoms may include:

- Abdominal discomfort or severe pain due to gas, indigestion, pressure, swelling, bloating, or cramps
- Feeling of fullness, even after a light meal or loss of appetite
- Nausea or diarrhoea
- Constipation
- Frequent urination
- Unexplained weight gain or loss
- Abnormal vaginal bleeding
- Rectal bleeding
- Shortness of breath

Exercise can cut 'invisible' disease-causing fat

February 3, 2019/The Tribune

Exercise can help reduce the invisible, fat that affect the internal organs and may cause heart diseases or diabetes, scientists say. The type of fat you can measure with a tape is not the most dangerous, researchers said. The internal, visceral fat on the other hand can affect the heart, liver and other organs.

Researchers at University of Texas (UT) Southwestern in the US analysed two types of interventions—lifestyle modification (exercise) and pharmacological (medicine)—to learn how best to defeat fat lying deep in the belly.

"Visceral fat can affect local organs or the entire body system. Systemically it can affect your heart and liver, as well as abdominal organs," said Ian J Neeland, assistant professor of at UT Southwestern. "When studies use weight or body mass index as a metric, we don't know if the interventions are reducing fat everywhere in the body, or just near the surface," Neeland said. For the study published in the journal Mayo Clinic Proceedings, researchers evaluated changes in visceral fat in 3,602 participants over a 6-month period measured by a CT or MRI exam.



New AI tool increases accuracy of schizophrenia diagnosis

February 3, 2019/Hindustan Times

A novel artificial intelligence (AI) enabled tool can help diagnose schizophrenia more accurately than other such systems, according to a study led by an Indian origin scientist. The tool called EMPaSchiz, developed by researchers at the University of Alberta in Canada, examined brain scans from patients who were diagnosed with schizophrenia and predicted the diagnosis with 87 per cent accuracy. The finding, published in the journal NPJ Schizophrenia, follows on a previous study in 2017 in which researchers at IBM and Alberta developed a tool capable of predicting schizophrenia with 74 per cent accuracy.

"Schizophrenia is characterised by a constellation of symptoms that might co-occur in patients. Two individuals with the same diagnosis might still present different symptoms. This often leads to misdiagnosis," said Sunil Kalmady, a post-doctoral fellow at the University of Alberta. "Machine learning, in this case, is able to drive an evidence-based approach that looks at thousands of features in a brain scan to lead to an optimal prediction," said Kalmady, who led the study.

The researchers noted EMPaSchiz is one of the first machine learning tools trained exclusively on data from patients who were diagnosed but not yet taking any medication to treat their illness, which could make it more valuable in the early stages of diagnosis. "Mental health disorders are highly complex in terms of causes and manifestation of symptoms," said professor Andrew Greenshaw.

"Machine learning and future AI are approaches that enable a multi-dimensional, data-driven inroad that captures the level of complexity and objectivity that we need to unravel the wicked problems of understanding mental illness," Greenshaw said.

WorldCancerDay: Never ignore this one sign on your nail

February 4, 2019/The Times of India

When we think of cancer, we often end up ignoring the simple signs and that's where the trouble begins. Some of the simplest symptoms of any kind of skin cancer are as trivial as marks on the skin, moles, skin lesions. When it comes to our skin and nails, we tend to go very easy but there are many things that they can tell you. A simple dark line on your nail can be a sign of melanoma, warn doctors.

What is skin melanoma?

Melanoma is a type of cancer that develops in and around skin cells called melanocytes, which are responsible for the production of melanocytes which in turn form melanin, the pigment that gives skin, hair, and eyes their color.

Commonly, it is thought that the first and the most important sign of skin melanoma is a mole but did you know even your nails can tell a lot about your health? Your nail health is an indication of your overall health. Yellow or pale nails

can be an indication of iodine deficiency while hangnails can be a sign of calcium levels. If you have a dark line across your nail bed or have a black patch on your nails, it can be an early sign of melanoma. The patch is often so dark enough, that it is difficult to hide. That is reason enough for you to make an appointment with a doctor. Subungual melanoma, or nail melanoma is a rare, yet risky kind of cancer which affects 1-3% of the population worldwide. They occur most often in people between the age of 40 and 70. It can happen both on the nails as well as toe nails. Sometimes, the darkened patch can also extend beyond the nail to the skin and also extend into darker pigmented shades like brown, blue. This is also a common characteristic which happens as the tumor grows and the cancer spreads. They are often misdiagnosed as a fungal infection due to their characteristic changes in color and nail texture. As the melanoma continues to grow, it can also cause bleeding or deformity to the nail itself.

World Cancer Day: Cervical cancer risk highest in middle-aged Indian women

February 4, 2019/Hindustan Times

Nearly 50% of middle-aged women in India were found to have positive cases of high-risk human papillomavirus (HPV) - the main risk factor for cervical cancer, says a report from SRL Diagnostics.

Human papilloma virus (HPV) is a group of viruses that are extremely common worldwide. There are more than 100 types of HPV, of which at least 14 are cancer-causing (also known as high risk type). The virus is mainly transmitted through sexual contact and most people are infected with HPV shortly after the onset of sexual activity.

Two HPV types (16 and 18) cause 70% of cervical cancers and precancerous cervical lesions. Analysis of HPV test reports of 4,500 women pan-India between 2014 and 2018, showed that women aged between 31 and 45 years had the highest percentage of high-risk HPV at 47%. This was followed by 30% of women aged between 16 and 30 years being affected by the risk.

Cervical cancer accounts for one-third of all global deaths, with 74,000 deaths occurring annually and is the second leading cause of cancer deaths among women in India.

However, “cervical cancer is also the only cancer which is preventable if care is taken in the initial stage”, said B.R Das from SRL Diagnostics in a statement issued here on Saturday. “The high mortality rate from cervical cancer globally could be reduced through a comprehensive approach that includes screening, early diagnosis and treatment programmes,” he added. Besides vaccination before girls become sexually active, secondary prevention can be done by regular cervical smear of PAP smear which can pick up any abnormal cells in the cervix before they become cancerous.

“While PAP test is much more likely to miss precancerous cervical disease, HPV testing is more sensitive for detecting localised infection and marginally less sensitive for distant infection,” Das noted.

Stage Zero Breast Cancer

February 4, 2019/The Hindu



Stage Zero Breast Cancer is the earliest form of breast cancer. Medically termed Ductal Carcinoma In Situ (DCIS), cancer cells are found inside the milk ducts (the canals that allow milk to move from the milk gland to the nipple) in the breast, but have not spread to the surrounding breast tissues or organs. “According to the Indian Council of Medical Research (ICMR), more than 100,000 new cases of breast cancer are diagnosed each year. However, there are no precise statistics on the incidence of DCIS in India,” says Dr P Raghu Ram, director of KIMS – Ushalakshmi Centre for Breast Diseases, Hyderabad.

Though Stage Zero Breast Cancer is not dangerous, it has the potential to spread to the surrounding tissues if left untreated. Based on the appearance of the cells under a microscope and on the rate with which they multiply, it can be divided into low grade and high-intermediate grade. “It is less likely for a low-grade DCIS to be an invasive breast cancer when compared to the high-grade DCIS. The treatment is based on the extent of the DCIS within the ducts and its grade,” he explains.

DCIS is difficult to detect as it does not have any symptoms. “Women must look out for a change in size, rash on or around the nipple, a painless lump, blood-stained discharge from the nipple, swelling under the armpit or a retraction of the nipple. Women above 40 years of age must have a mammogram done at least once in two years for early detection.”

DCIS is not life-threatening and has a long-term survival rate. But the number of women in India being diagnosed with DCIS breast cancer is low. Says the good doctor, “According to statistics from the World Health Organization, fewer than 5% of women undergo breast screening in India. The reasons are lack of awareness about the importance of early detection and the absence of an organised nationwide breast cancer screening programme.” The bottomline: Be breast aware, checking from an early age, and going to the doctor if you see any change at all. It’s likely to be nothing, but if there’s something there, you’ll have caught it in time.

In this column, we demystify the buzzwords in wellness

WHO and vaccine group back ‘critical’ cervical cancer shots

February 4, 2019/The Indian Express

A vaccine given to girls to protect them against a virus that causes cervical cancer is a “critical” health tool and access to it should be scaled up as swiftly as possible, especially in poorer countries, cancer experts said on Monday. Figures from the World Health Organization’s International Agency for Research on Cancer (IARC) showed an estimated 570,000 new cases of cervical cancer were diagnosed worldwide in 2018, making it the fourth most common cancer in women globally.

Each year, more than 310,000 women die from cervical cancer, and the vast majority of deaths are in poorer countries where immunisation rates against the human papillomavirus (HPV) that causes it are low. In wealthy countries, some anti-vaccine campaigners are also persuading parents to refuse the shot for their children, leaving them at risk, IARC said.

“Unfounded rumours about HPV vaccines continue to unnecessarily delay or impede the scaling up of vaccination,” IARC’s director Elisabete Weiderpass said in a statement. In a separate statement addressed to the WHO last week, the GAVI vaccines alliance also urged greater support for HPV shots, saying it aimed to immunise 40 million girls in poorer countries against HPV by 2020.

Liver drug may slow Parkinson's progression

February 6, 2019/The Indian Express



Scientists are testing the effectiveness of a drug, currently used to treat liver ailments, in slowing down the progression of Parkinson's disease. After screening 2,000 drugs, researchers from the University of Sheffield in the UK identified ursodeoxycholic acid (UDCA) as the most promising drug to rescue mitochondrial function in Parkinson's disease. The clinical trial will assess the safety and tolerability of the drug – which has been used to treat liver disease for over 30 years — in Parkinson's patients. Scientists hope that the drug will be repositioned to help slow down the progression of the disease. Parkinson's disease is a progressive neurological condition severely affects a patient's quality of life and symptoms include problems with mobility such as walking, coordination or tremor, but can also result in memory loss, low mood or abnormal bowel function. The symptoms of Parkinson's are mainly due to the loss of dopamine-containing nerve cells in the area of the brain which controls movement. The effectiveness of the drug will be assessed with two novel approaches. By using 31P MRI-Spectroscopy (31P-MRS), researchers will be able to quantify the function of the mitochondria to examine whether the drug successfully normalises the function of the brain tissue affected in Parkinson's.

Specially designed sensors will also be used to measure the effect of UDCA on a patient's motor impairment. The bio-sensors will be worn by patients at the beginning and end of the trial, giving more effective results than using a clinical scale which may not be objective. Repeat sensor-based objective measurements of motor impairment throughout the trial may also tell researchers whether UDCA might have the potential to slow down the progression of Parkinson's.

Kidneys grown in rats could pave way for human transplant

February 6, 2019/The Hindu

Scientists said on Wednesday that they have successfully used mice stem cells to grow kidneys in rat embryos, using a technique that could one day help grow human kidneys for transplant. But the researchers cautioned that their success was only a first step and that “serious technical barriers and complex ethical issues” remain before the process could be used for human organs.

The technique has previously been used to grow mice-derived pancreases in rats, but the new study is the first evidence that it could one day provide a solution to the massive shortage of donor kidneys for people with renal disease. The research, published in the Nature Communications journal, began with the development of a suitable “host” in which the kidneys could be grown.

Genetically modified

The researchers collected rat embryo structures that had been genetically modified so they would not develop kidneys on their own.

The embryos were then injected with pluripotent stem cells from mice and implanted into rat wombs so they could be carried to term. Pluripotent stem cells are a kind of “master” cell that can develop into any of the cells and tissue that make up the body. The researchers found that the mice stem cells produced apparently functional kidneys in the rats. But the same did not hold when rat stem cells were injected into similarly modified mice embryos. The process of growing human organs in animals poses an ethical conundrum because human stem cells could develop into brain or reproductive organ cells in the host. In the short-term,

additional research is likely to focus on ways to genetically modify host rats without lethal side effects.



Absence of gut bacteria might influence depression: Study

February 6, 2019/The Indian Express

While gut bacteria can largely impact our physical wellbeing, a recent study suggests a significant link between gut bacteria and mental health.

Researchers from VIB-KU Leuven Center for Microbiology in Belgium conducted a study in which they gathered and analysed health data of a large group of people in an attempt to find out which gut bacteria may play a role in causing depression. The findings of this new study appeared in the journal Nature Microbiology.

Researchers involved in the study named the gut bacteria that are linked to mental wellbeing and also concluded that many bacteria can produce substances called neuroactive that can interact with the nervous system. For the study, researchers studied the fecal microbiome data in conjunction with diagnoses of depression in 1,054 people taking part in the Flemish Gut Flora Project.

“Through this analysis, the team revealed that two types of bacteria — those from the genera Coprococcus and Dialister — were absent from the guts of people with a diagnosis of depression. This even applied to those who took antidepressant medication”, according to a report in Medical News.

“This finding,” adds Prof. Raes, “adds more evidence pointing to the potentially dysbiotic nature of the Bacteroides2 enterotype we identified earlier. Apparently, microbial communities that can be linked to intestinal inflammation and reduced well-being share a set of common features.”

“The team also devised a special technique that allowed it to find out which bacteria might influence the nervous system. They looked at over 500 human gut bacteria, focusing on whether they could produce neuroactive compounds. In the end, the team came up with a list characterising the range of neuroactivity of different bacteria”, Medical News stated.

'Lab-grown liver' raises hopes for acute liver failure patients

February 7, 2019/The Tribune

Researchers in Hyderabad claim to have developed a promising technology for creating in the lab "implantable bioengineered humanized" livers for the management of acute liver failure (ALF), one of the most devastating fatal conditions. The technology, successfully demonstrated in animal experiments, "has enormous potential for clinical translation" in managing ALF patients desperately waiting for liver transplants, it is claimed.

The study by researchers at the Centre for Liver Research of the Deccan College of Medical Sciences (DCMS) has been reported in the Elsevier journal "Material Science & Engineering-C".

Currently liver transplantation has been the only treatment option available for ALF. But its wider applicability has been limited by high cost, non-availability of quality donor organs and the need to use immunosuppressive drugs throughout life. It is here that the animal study by researchers at DCMS's Centre for Liver Research raises hopes of an alternative approach although clinical trials in humans are yet to validate this.

Vitamin D may help treat lethal drug-resistant TB

February 7, 2019/The Tribune



Taking vitamin D supplements with antibiotics can help speed up the process of clearing multi-drug resistant tuberculosis bacteria from the lungs, a study claims. The World Health Organisation estimates that 10.0 million people developed active tuberculosis (TB) in 2017, and that 1.6 million people died of this disease.

“Multi-drug resistant TB is on the rise globally. It’s notoriously difficult to treat, and it carries a much worse prognosis than standard TB,” said Adrian Martineau from Queen Mary University of London in the UK. Multi-drug resistant (MDR) TB is caused by bacteria that are resistant to treatment with at least two of the most powerful first-line anti-TB drugs, causing around 5,00,000 cases and 1,50,000 deaths per year worldwide. Existing antibiotic treatments for MDR TB are lengthy, costly and often toxic due to their serious side effects. When added to antibiotic treatment, vitamin D was found to accelerate TB clearance specifically in patients with MDR TB, even though no acceleration of TB clearance was seen when looking at the entire study population as a whole. The vitamin D supplementation was also found to be safe at the doses administered, with no links to serious adverse events. The researchers say these results illustrate the potential for so-called ‘host-directed therapies’—treatments that boost the immune system—to improve outcomes in patients with drug-resistant bacterial infections. The researchers caution that the analysis is not sufficient on its own to justify a clinical recommendation of the use of vitamin D in the treatment of MDR TB, as it is based on a relatively small number of participants. However, they say these results now provide a rationale to carry out new clinical trials to see if vitamin D really can benefit patients who are taking standard antibiotics for MDR TB. PTI

New 'Trojan horse' drug kills cancer from inside

February 8, 2019/The Tribune

A novel cancer drug which acts as a 'Trojan horse' to destroy tumours from the inside has shown promising results across six different forms of the deadly disease, scientists say. In patients with advanced, drug-resistant cancers, over a quarter with cervical and bladder tumours, and nearly 15 per cent with ovarian and lung tumours, responded to the new treatment, said researchers from the Institute of Cancer Research in the UK. The innovative new drug, called tisotumab vedotin (TV), releases a toxic substance to kill cancer cells from within.

The results, published in *The Lancet Oncology*, are so positive the drug has now moved forward to phase II trials in cervical cancer and will be tested in a range of additional solid tumour cancers. The researchers led a global clinical trial of nearly 150 patients with a variety of cancer types who had stopped responding to standard treatments. "What is so exciting about this treatment is that its mechanism of action is completely novel—it acts like a Trojan horse to sneak into cancer cells and kill them from the inside," said Professor Johann de Bono, a professor at the Institute of Cancer Research. "Our early study shows that it has the potential to treat a large number of different types of cancer, and particularly some of those with very poor survival rates," de Bono said. "TV has manageable side effects, and we saw some good responses in the patients in our trial, all of whom had late-stage cancer that had been heavily pre-treated with other drugs and who had run out of other options," he said. The researchers have already

begun additional trials of the drug in different tumour types and as a second-line treatment for cervical cancer, where response rates were particularly high.

They are also developing a test to pick out the patients most likely to respond.



Eating walnuts may lower depression risk: Study

February 8, 2019/The Tribune

Consuming walnuts may lower the prevalence and frequency of depression, and improve concentration levels, according to a study carried out in American adults.

Researchers from the University of California, Los Angeles (UCLA) in the US found that depression scores were 26 per cent lower for walnut consumers and eight per cent lower for consumers of other nuts, compared to those who did not eat nuts at all. The study, published in the journal *Nutrients*, found that walnut consumption was more closely associated with higher energy levels and better concentration, compared to other nuts. "According to the Centers for Disease Control and Prevention (CDC), one out of every six adults will have depression at some time in their life. It is important to find low-cost interventions, such as dietary changes, that are easy to implement and may help reduce the incidence of depression," said lead investigator Lenore Arab, from UCLA. Depression scores were significantly lower among those who consumed nuts, particularly walnuts, compared to those who did not consume nuts, even after controlling for age, sex, race, income, body mass index (BMI), smoking, alcohol consumption, and marital status. On average, walnut consumers ate about 24 grammes of walnuts per day, equivalent to one-quarter cup serving. While the association between nut consumption and depression scores was consistent for men and women, the effect appeared to be strongest among women, who are more likely to report greater depression symptoms and use of antidepressants, compared to men. When compared to other tree nuts, walnuts have a unique fatty acid profile—they contain mostly polyunsaturated fats, including a significant amount of the plant-based omega-3 alpha-linolenic acid (2.5g/28 grammes), which is more than any other nut, researchers said.

With regards,

Syed Adil Shamim Andrabi
Information Interface Officer/PRO
Indian Council of Medical Research-
Department of Health Research
Ministry of Health and Family Welfare
proicmr@gmail.com, syed.adil@icmr.gov.in
Ext. 286, Phone. 26589130