Alzheimer's

Experts sniff breakthrough in bid to tackle Alzheimer's (The Times of India: 20170822)


Scientists have highlighted a little-known symptom of Alzheimer's disease that could help supply earlier diagnosis in patients.

While it is thought that initial damage from dementia occurs up to 20 years before any symptoms appear, there are currently no tests to confirm whether or not this is happening. Now, scientists at McGill University, Canada, believe they have found a possible link that connects loss of smell to early indication of the disease. As part of the study, 300 participants at high risk of developing Alzheimer's because they had a parent who suffered from it were asked to take a multiple choice scratch-and-sniff test.

The researchers found that those who had the most difficulty identifying odours were also those who had the most biological indications of Alzheimer's disease. Although there are currently no treatments for Alzheimer's, experts say that the smell test could be used to track the disease before other symptoms appear and even reduce symptoms once they begin. While the researchers are hopeful, they recognise that more tests need to be performed.
Joint Pain High Blood Sugar (The Times of India: 20170822)

JOINT PAIN - HIGH BLOOD SUGAR...

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Zika comparisons

The Asian strain is more dangerous than the African one (The Hindu: 20170822)

http://www.thehindu.com/opinion/op-ed/zika-comparisons/article19535436.ece

Clinical studies have already shown that infection of pregnant women by the Asian Zika virus strain, especially during the first and second trimesters, leads to significantly higher foetal anomalies. Now, laboratory studies using blood samples taken from pregnant women in their first, second and third trimesters of pregnancy have confirmed that foetuses are more vulnerable to the Asian strain during the first and second trimester.

A study published on August 21 in the journal, Nature Microbiology, has also found that infection by the Asian strain leads to expression of two genes that are associated with pregnancy-associated complications. The experimental evidence also strongly suggests that the early stage of pregnancy is a time of “high susceptibility” to the Zika infection.

Suan-Sin Foo from the University of Southern California, Los Angeles, and others tested whole blood samples of pregnant and non-pregnant women using both the African and Asian Zika virus strains. While the two strains share closely similarity (90%), the presence of African virus in certain blood cells was much higher than the Asian strain. However, the Asian strain showed greater ability to trigger immune suppression, which allows the virus to replicate and even possibly sneak into the womb and cause more foetal damage.

Particular white blood cells called CD14 are the primary target cells for Zika infection. The CD14 cells turn into another kind of white blood cells (macrophages) that swallow bacteria and viruses and keep the body healthy. But the researchers found that the Asian Zika virus strain was pushing the CD14 cell to become a kind of macrophage that suppresses the immune system.

During pregnancy, the body naturally suppresses the immune system to protect the growing foetus from being rejected by the womb. The reduced immunity makes pregnant women highly susceptible to Zika infection during this period. After infection, the Asian strain further promotes immune suppression.

Also, there is higher level of expression of two genes — ADAMTS9 and FN1 — that are detrimental to pregnancy. The authors hypothesise that the expression of these genes may be induced during the first and second trimesters “specifically” when infected by the Asian strain. While elevated expression of the ADAMTS9 gene is implicated with preterm birth and small birth weight, higher expression of the other gene causes foetal-growth restriction.
Dengue

12-year-old becomes Delhi’s first dengue victim this year (Hindustan times: 20170822)


Boy dies at Sir Ganga Ram Hospital due to multi-organ failure; Delhi records 325 dengue, 194 chikungunya cases

The intermittent showers create a conducive environment for the growth and multiplication of diseasecausing viruses and bacteria and also create an ideal breeding ground for mosquitoes.

HEALTH DEPARTMENT OFFICIAL

From page 1 NEW DELHI: Delhi reported its first dengue death for this year, with a 12-year-old boy succumbing to the mosquito-borne viral infection, earlier this month.

The boy died at west Delhi’s Sir Ganga Ram Hospital on August 1, due to multi-organ failure.

With 161 new cases reported in the past one week, a total of 325 people have been affected by the vector-borne disease in Delhi so far this year. The number of cases is twice that in the same period last year (162).

In 2016, there were 4,431 cases of dengue and 10 deaths.

Last year Delhi witnessed a chikungunya outbreak with 7,760 total cases having been reported, and this year, too, 194 cases have already been reported. In the corresponding period last year, 20 samples had tested positive for chikungunya.

“The reason that higher numbers of chikungunya cases are being recorded this year is that the surveillance is better. Last year, nobody had expected a chikungunya outbreak as the viral infection does not commonly spread in Delhi,” said a Delhi government official.

“It was only after hospitals started receiving hundreds of cases, that attempts to collect data were made,” the official added. After the outbreak, the municipal corporation listed chikungunya as a notifiable disease, making it mandatory for hospitals to report cases.

Both the mosquito-borne illnesses are spread by the same day-biting aedes aegypti mosquito, which breeds in clean stagnant water. The mosquito population usually increases during the monsoons.

Malaria cases are also going up, with 215 cases reported till August 19th. In the same period last year, 165 cases tested positive.
Intermittent rainfall that Delhi has been getting this season is one of the reasons for mosquito breeding. “The intermittent rain creates conducive environment for the growth and multiplication of disease-causing viruses and bacteria and also create an ideal breeding ground for mosquitoes,” said the health department official, Delhi government.

**Salmonella bacteria**

**Your frozen chicken may have deadly Salmonella bacteria(Hindustan times: 20170822)**


From page 01 MUMBAI: Ready-to-cook chicken and raw meat stored above freezing point is likely to be contaminated with the Salmonella bacteria that causes acute food poisoning, a study by a leading state-run institute has found.

ISTOCK

n The study by Bhabha Atomic Research Centre’s food technology division tested 87 samples in Mumbai.

The study by the Bhabha Atomic Research Centre’s food technology division tested 87 samples from supermarkets and departmental stores in Mumbai. The study, Salmonella in Indian ready-to-cook poultry: Antibiotic resistance and molecular characterisation, was published in Microbiology Research, an international online-only peer reviewed journal.

More than 50% of the 48 samples of minimally processed and raw meat samples stored at 8-10°C were found to be contaminated, the study showed but didn’t name the brands of chicken tested.

Though the sample size is small, it provided an insight into the way poultry is sold in the retail market in India. Reuters quoted a report by the US department of agriculture (USDA) which said consumption of processed chicken meat in India was rising annually at 20%.

The report also said four of every five Salmonella strains found were resistant to antibiotics, attributed to alleged misuse of antibiotics by poultry farmers to promote growth.

THE TESTS

The Food Technology Division and Radiation Biology and Health Science Division of the Bhabha Atomic Research Centre conducted tests for the presence of salmonella on 87 chilled and frozen RTC poultry samples of four brands from supermarkets and departmental stores in Mumbai.
Chilled RTC samples comprised mixed boneless chicken, leg cut, pre-cut, soup pieces, keema, assorted cut pieces, lollipops or drumsticks. Frozen RTC samples included sausages, keema, cutlet, nuggets, tandoori chicken nuggets, tandoori chicken tikka, chicken samosa, salami slices, seekh kebab, burger patty among others. The samples also contained ingredients such as flour, onion, water, spices and condiments such as coriander leaves, garlic, ginger, red chilli powder to name a few.

Commenting on the report, an expert said, “The consumption of frozen RTC poultry products is safer than chilled products as temperature plays a significant role in growth of salmonella.”

Dr Sumanth Gandra, an expert with the US-based Centre for Disease Dynamics’ New Delhi office, said, “In the US, contamination was 9% in 2014 in retail meat compared to India’s over 50%. We don’t know what practices are followed in India,” said Gandra.

Encephalitis (The Asian Age: 20170822)

Avocado seed husk may help to treat heart disease, cancer (Medical News Today: 20170822)

http://www.medicalnewstoday.com/articles/319065.php

From lowering cholesterol to aiding weight loss, the potential benefits of avocado consumption have been well documented. A new study, however, suggests that further rewards could be reaped from a part of the fruit that we normally discard: the husk of the seed.

Researchers found that avocado seed husks contain a variety of chemical compounds that could help to kill viruses, combat heart problems, and even treat cancer.
Study co-author Debasish Bandyopadhyay, Ph.D., of the Department of Chemistry at the University of Texas Rio Grande Valley in Edinburg, and colleagues recently reported their findings at the 254th National Meeting & Exposition of the American Chemical Society, held in Washington, D.C.

Avocados are fast becoming one of the United States' favorite fruits. According to the U.S. Department of Agriculture, avocado consumption in the country has more than doubled over the past decade, and we are now eating almost four times as many avocados than we were in the mid-1990s.

The benefits of avocado

Given the many health benefits associated with avocado intake, it is no wonder the fruit has seen a rise in popularity.

A study reported by Medical News Today in 2015, for example, associated avocado intake with lower levels of "bad" cholesterol in people who are overweight or obese, while other research has linked avocado consumption with reduced risk of metabolic syndrome.

Of course, such benefits are based on the consumption of avocado flesh, since the skin and seed of the fruit are usually discarded. The new study, however, suggests that when we throw away the latter, we may be discarding the most valuable component.

Dr. Bandyopadhyay and colleagues came to their findings by grounding down around 300 dried avocado seed husks, which is the skin that coats the seeds.

The grounding process resulted in 21 ounces of avocado seed husk powder. Further processing of the powder resulted in three teaspoons of seed husk oil and just over one teaspoon of seed husk wax.

The team then used chromatography-mass spectrometry analysis to pinpoint the chemical compounds present in the seed husk oil and wax.

Avocado seed husk: The 'gem of gems'?

In total, the researchers identified 116 compounds in the avocado seed husk oil, many of which could be beneficial to human health, and many of which could not be found in the avocado seed itself.

Some compounds of particular interest in the seed husk oil were behenyl alcohol, dodecanoic acid, and heptacosane. Behenyl alcohol is used in antiviral medication, dodecanoic acid is known to boost "good" cholesterol, and heptacosane has shown promise for killing tumors.

Additionally, the team identified compounds in avocado seed husk wax that are used as food additives - such as butylated hydroxytoluene - and in cosmetic products, including bis(2-butoxyethyl) phthalate.

Avocado compound holds promise for treating leukemia
Avocado compound holds promise for treating leukemia

Learn how a compound in avocado could help to treat acute myeloid leukemia.

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The researchers now plan to modify some of the chemical compounds they identified in avocado seed husk oil, with the aim of developing new, safer medications.

"It could very well be that avocado seed husks, which most people consider as the waste of wastes, are actually the gem of gems because the medicinal compounds within them could eventually be used to treat cancer, heart disease, and other conditions."

Osteoporosis

Osteoporosis: Potential new drug target uncovered (Medical News Today: 20170822)

http://www.medicalnewstoday.com/articles/319064.php

Researchers have uncovered a new cause for osteoporosis in the body's so-called senescent cells. By targeting these cells with anti-aging drugs, the findings could change therapeutic approaches for the treatment of age-related bone loss.

The National Osteoporosis Foundation (NOF) report that in the United States, 10 million people live with osteoporosis, which is a condition wherein bones become brittle and break. Another 44 million U.S. individuals are thought to have low bone density.

Additionally, the NOF caution that approximately half of all people in the country aged 50 and above "are at risk of breaking a bone and should be concerned about bone health."

Researchers from the Mayo Clinic in Rochester, MN, have uncovered a new cause for osteoporosis in mice. The first author of the study is Joshua N. Farr, of the Robert and Arlene Kogod Center on Aging and Division of Endocrinology at the Mayo Clinic College of Medicine, and the findings are published in the journal Nature Medicine.

Targeting senescent cells

The body's so-called senescent cells are those involved in the normal process of aging and in diseases related to aging. For the new research, Farr and colleagues designed several mouse models wherein the mice had bone loss and were aged between 20 and 22 months - the equivalent of being over 70 years old in human years.
The researchers targeted these cells in a variety of ways. They "switched off" the genes for these cells, and they eradicated them using so-called senolytic drugs, which are meant to "kill off" senescent cells.

Finally, they used a drug that inhibits the activity of a type of enzyme called Janus kinase enzymes to block the production of a pro-inflammatory substance secreted by senescent cells.

Dr. Sundeep Khosla, director of the Aging Bone and Muscle program at Mayo Clinic's Robert and Arlene Kogod Center on Aging, explains the results of the study, saying, "The effects of all three approaches on aging bone were strikingly similar."

"They all enhanced bone mass and strength by reducing bone resorption but maintaining or increasing bone formation, which is fundamentally different from all current osteoporosis drugs."

Some of these approaches were also tested in young mice aged around 12 months. Genetically killing off senescent cells and inhibiting them with senolytic drugs did not have any beneficial effect on the bones of young mice, which further strengthens the causal link between senescent cells and age-related osteoporosis.

Senolytic drugs effective

The senolytic drugs used were dasatinib and quercetin, and they were administered in combination once per month.

Co-corresponding study author Dr. James Kirkland, Ph.D., director of the Kogod Center on Aging, further explains the results. He says, "Even though this senolytic drug combination was only present in the mice for a couple of hours, it eliminated senescent cells and had a long-lasting effect."

"This is another piece of the mounting evidence that senolytic drugs are targeting basic aging processes and could have widespread application in treating multiple chronic diseases," he adds.

Could new bone-forming growth factor reverse osteoporosis?

Could new bone-forming growth factor reverse osteoporosis?

Can this regenerative medicine discovery reverse bone loss?

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The authors also explain the benefits of administering this drug combination only intermittently - that is, at clearly set monthly intervals - compared with currently available osteoporosis medication, which needs to be taken daily and can have serious side effects.

Current medication for osteoporosis, the authors explain, has a significant negative effect in that it decreases bone resorption, which, in turn, decreases bone formation. Bone resorption
refers to the process whereby bone is naturally removed throughout one's lifetime, while new bone forms.

The senolytic drugs used intermittently in this study lowered bone resorption but preserved bone formation and even sometimes increased it.

"While we know from previous work that the accumulation of senescent cells causes tissue dysfunction, the role of cell senescence in osteoporosis up to this point has been unclear," Dr. Khosla says.

"The novelty of this work for the bone field lies in the fact that, rather than targeting a bone-specific pathway, as is the case for all current treatments for osteoporosis, we targeted a fundamental aging process that has the potential to improve not only bone mass, but also alleviate other age-related conditions as a group."

Dr. Sundeep Khosla

"We need to continue to pursue these potential interventions that target fundamental aging mechanisms as, hopefully, an eventual way to reduce the burden of fractures and other conditions, such as cardiovascular dysfunction, diabetes, and frailty," he concludes.

Human milk

Human milk sugars may protect against group B strep (Medical News Today: 20170822)

http://www.medicalnewstoday.com/articles/319060.php

Human milk contains sugars that may protect against group B strep, which is a leading cause of severe infection in newborn babies. The scientists behind the discovery suggest that the sugars might also prevent biofilms, which are a particularly stubborn form of infection.

The study is the first to show that carbohydrates in human milk could work against biofilms, say the researchers, who are from Vanderbilt University in Nashville, TN.

If their findings are confirmed by further studies, the sugars might form part of antimicrobial treatments for babies and adults. They might also reduce reliance on some common antibiotics, says senior investigator Steven Townsend, Ph.D., who is an assistant professor of chemistry.

The team recently presented the study at the American Chemical Society's 254th National Meeting & Exposition, held in Washington, D.C., and they reported it in the journal ACS Infectious Diseases.

Group B strep
Group B Streptococcus (group B strep) is a type of bacteria that is commonly found in the gut (including the stomach, intestines, and rectum) and genital tract without causing any symptoms. Occasionally, however, group B strep causes illness - especially when it infects the bloodstream and soft tissue.

In babies, group B strep infection can result in severe illnesses such as sepsis (infection in the blood), pneumonia (infection in the lungs), and meningitis (infection of the fluid and lining of the brain and spinal cord).

There are two main types of group B strep disease in babies: those that occur during the first week of life (termed early-onset) and those that occur between that period and age 3 months (late-onset).

In the United States, there are around 26,500 severe cases of group B strep infection every year in all age groups.

The rate of early-onset infection in babies has fallen dramatically since "active surveillance" began in the mid-1990s; between 1993 and 2014, the rate fell from 17 to 0.24 cases per 1,000 live births.

In their study report, the researchers explain that group B strep can infect the fetal membranes during pregnancy. Another route of infection from the mother is thought to be from the vagina during childbirth.

"In most women, the group B strep that is present will not cause illness," notes Prof. Townsend.

"But for newborn babies," he explains that infection by group B strep "often leads to sepsis or pneumonia, and in severe cases death, because they don't have fully developed defense mechanisms."

**Multiple sclerosis**

**Multiple sclerosis: Are we close to a cure? (Medical News Today: 20170822)**

http://www.medicalnewstoday.com/articles/319061.php

Just 20 years ago, there was little in the way of treatments for multiple sclerosis. But now, research has built momentum, and discoveries and potential treatments are always emerging. How far have we come in treating the symptoms of multiple sclerosis and how close are we to a cure? We find out.
Multiple sclerosis (MS) is a potentially disabling disease that affects the brain and spinal cord. Around 400,000 people are living with MS in the United States and approximately 2.1 million individuals have the condition worldwide.

The exact mechanism that drives MS is not entirely understood. However, many researchers suggest that the condition is an autoimmune disease that attacks the myelin sheath - that is, the protective layer surrounding the nerves that help electrical signals to travel from the brain to the rest of the body - in the brain and spinal cord.

Over time, the disease can deteriorate or permanently damage the nerves. Symptoms tend to vary depending on the nerves affected and the damage caused. While some people may lose the ability to walk, others experience extended periods of remission.

Drugs recently approved by the FDA

At present, disease-modifying therapies (DMTs) are the best strategy to slow the course of MS. DMTs reduce the frequency and severity of relapses - or attacks and exacerbations - and the development of new lesions, and slow down the progression of disability.

Ocrelizumab is the latest MS drug approved by the FDA.

The number of available DMTs has increased rapidly in recent years, and there are now 15 of them approved by the U.S. Food and Drug Administration (FDA) for relapsing forms of MS, including relapsing-remitting MS (RRMS). One of these is also the first to be approved for use in primary progressive MS (PPMS), and the FDA has approved another for use in secondary progressive MS (SPMS).

The newest addition to the DMT repertoire is ocrelizumab (Ocrevus).

Ocrelizumab

The FDA approved a groundbreaking new drug in 2017 for the treatment of relapsing MS. The drug is also the first approved to treat PPMS. Research conducted by a team of researchers has shown that ocrelizumab significantly reduces relapses in relapsing MS and slows the progression of symptoms in PPMS.

Ocrelizumab, as with many other MS treatments, is an immunosuppressant drug. While most drugs for MS target T cells, ocrelizumab targets a subset of B cells that are thought to play a role in the destruction of myelin.

Phase III clinical trials for RRMS indicated that compared with interferon beta-1a, ocrelizumab was able to reduce relapse rates by up to 47 percent, cut back disability by up to 43 percent, and decreased inflammatory lesions in the brain by 95 percent.

A phase III clinical trial for PPMS found that after 12 weeks of receiving ocrelizumab or a placebo, progression of disability was 39.3 percent in the placebo group compared with 32.9
percent in those receiving ocrelizumab. By 120 weeks of treatment, a timed 25-foot walk worsened performance by 55.1 percent for placebo versus 38.9 percent for the ocrelizumab group.

Patients receiving ocrelizumab also had fewer brain lesions and less loss of brain volume than the placebo group.

Latest innovations in the MS drug pipeline

The development of new medicines can take 10 to 15 years from testing in a laboratory to being commercially available. For every 10,000 compounds tested, fewer than one or two become licensed treatments, with many rejected on the grounds of their safety, quality, and efficacy.

Some therapies in their final phase of clinical trials are listed below. If the drugs prove effective in this phase, data from phases I through III are presented to the FDA for approval. Only 25 to 30 percent of drugs progress to the next stage following FDA approval.

Laquinimod

Laquinimod is an experimental drug in phase III trials for relapsing MS, and phase II trials for PPMS. Laquinimod may prevent immune cells from reaching the brain. Investigations have indicated that Laquinimod has both anti-inflammatory and neuroprotective actions, and it may affect the levels of certain cytokines, which are substances secreted by immune cells, as well as diminish the immune cells that gain passage to the brain and spinal cord.

Multiple sclerosis: Antioxidant may slow disease progression

Researchers have recently found that an antioxidant called lipoic acid could help to slow the progression of multiple sclerosis.

READ NOW

Phase III studies of Laquinimod have shown a 23 percent reduction in annual relapse rate compared with a placebo, a 33 percent decrease in disability progression, and a 44 percent reduction in brain volume loss.

AHSCT

The idea behind autologous hematopoietic stem cell transplantation (AHSCT) is to "reboot" the immune system in people with MS. Hematopoietic, or blood cell-producing, stems cells derived from the person's own (autologous) blood or bone marrow are collected and stored. Many blood cells

AHSCT may stop MS disease progression for at least 5 years.
After chemotherapy drugs are used to deplete much of the immune system, the stored stem cells are then reintroduced to the body, and the new cells make their way to the bone marrow and gradually rebuild the immune system within 3 to 6 months.

Imperial College London in the United Kingdom recently published the long-term outcomes of AHSCT in people with relapsing MS. They revealed that AHSCT might halt the symptoms of the disease from progressing for 5 years in 46 percent of MS patients.

However, the treatment carries significant risk due to the involvement of aggressive chemotherapy, the researchers stress.

MD1003

MD1003 (high-dose biotin) is being tested in phase III trials for primary and secondary progressive MS. The drug is a highly concentrated form of biotin - 10,000 times the recommended daily intake - that activates enzymes involved in cell growth and myelin production. High doses of biotin may promote myelin repair.

Investigators compared MD1003 with a placebo in primary and secondary progressive MS. They found that 13 percent of individuals in the MD1003 group improved in disability after 9 months compared with no improvement in the placebo group.

Siponimod

Siponimod is being developed for use in SPMS. The drug works by trapping T cells and B cells in the body's lymph nodes, which prevents them from entering the brain and spinal cord and causing damage to myelin.

In a phase III trial, siponimod was found to lower the risk of disability progression by 21 percent at 3 months of treatment and 26 percent at 6 months compared with a placebo. The drug was also shown to reduce the number of relapses experienced and brain shrinkage, or atrophy.

Recent MS treatment research

MS treatment research is moving at a rapid pace. Recent study findings have highlighted new areas for investigation, potential causes that have opened up new targets for treatment, and novel therapies for tackling disease progression and symptoms.

Resistance training

According to research by the Aarhus University and Aarhus University Hospital, both in Denmark, the University of Southern Denmark, and the University Medical Center Hamburg-Eppendorf in Germany, while cognitive training helps to reduce the cognitive symptoms of MS, resistance training may protect the nervous system, and, as a result, slow down the progression of MS.

woman training with weights
Training with weights may help to protect the nervous systems and slow MS progression.

Study findings showed that physical training relieved some MS symptoms, including mobility impairments and excessive fatigue.

"Among persons with MS, the brain shrinks markedly faster than normal," said Prof. Ulrik Dalgas, of the Department of Public Health at Aarhus University. "Drugs can counter this development, but we saw a tendency that training further minimizes brain shrinkage in patients already receiving medication. In addition, we saw that several smaller brain areas actually started to grow in response to training."

Antioxidant

An over-the-counter antioxidant called lipoic acid may prove valuable in the treatment of SPMS, according to researchers from the Oregon Health & Science University in Portland.

Their study revealed a 68 percent improvement when using lipoic acid compared with a placebo in slowing the rate of whole brain atrophy. As a comparison, the recently approved ocrelizumab showed an 18 percent improvement over placebo in slowing the rate of whole brain atrophy in primary progressive forms of MS.

Gut microbes

Researchers from the Mayo Clinic in Rochester, MN, have reported that a human gut microbe called Prevotella histicola suppressed MS in mice. It decreased the levels of pro-inflammatory cells and increased levels of cell types that fight disease, including T cells, dendritic cells, and a form of macrophage.

"This is an early discovery but an avenue that bears further study," says Dr. Joseph Murray, a Mayo Clinic gastroenterologist. "If we can use the microbes already in the human body to treat human disease beyond the gut itself, we may be onto a new era of medicine. We are talking about bugs as drugs."

Is a cure for MS imminent?

As yet, there is no cure for MS. However, we are at a pivotal moment wherein researchers are making significant progress and breakthrough solutions toward a world free of MS.

woman in wheelchair staring at ice

Results from early mouse studies have indicated paralysis reversal in MS, which may have treatment implications for humans in the future.

Today, more therapies for MS are in development than ever before, and the disease is being diagnosed at a quicker rate, enabling early treatment to slow disease activity.

There is greater awareness of all the associated symptoms of MS and how to manage them to improve life quality. Furthermore, scientists have identified risk factors that make individuals more susceptible to MS, which may potentially lead to new ways to prevent the disease.
Researchers are making headway in testing approaches that protect the nervous system from MS-related damage. These strategies include using therapies that are already approved by the FDA for use in other disorders. Clinical trials assessing novel approaches to treating all forms of MS are also under way.

In learning how the nervous system and cells are damaged in MS, scientists have used their findings to investigate therapies aimed at repairing myelin. In mouse models of MS, researchers have already developed experimental treatments that have resulted in reversing paralysis and partially restoring myelination and limb function.

Researchers are pursuing leads that show how exercise and rehabilitation improve several functions and may help to rebuild and rewire certain areas of the brain.

Studies have uncovered modifiable lifestyle factors, such as smoking, vitamin D levels, and obesity, which could possibly decrease the chances of MS for the next generation. What is more, research teams have identified gene variations that influence a person's susceptibility to MS.

All these clues and evidence combined help researchers to understand the causes of MS, how to develop improved treatments, and how to prevent the disease. While there is still no definitive answer on how to cure MS, advances in research and potential treatment avenues may one day

**Respiratory depression**

**Respiratory depression: Causes, symptoms, and treatment (Medical News Today: 20170822)**

http://www.medicalnewstoday.com/articles/319030.php

Respiratory depression means that a person's rate and depth of breathing are lower than normal. This results in low oxygen levels and high carbon dioxide levels in the blood. Without treatment, the condition can cause life-threatening complications, including coma and death.

Anything that depresses the central nervous system (the brain) can cause respiratory depression since the brain controls a person's respiratory drive. In minor cases, symptoms may be unnoticeable.

Other symptoms in most cases include slow and shallow breathing. Oxygen therapy and respiration machines may be used in treatment, depending on the severity of each case.
Contents of this article:

What is respiratory depression?

Common causes

What are the symptoms?

Diagnosis

Treatment

Prevention

Fast facts on respiratory depression:

Sedative medication, narcotic pain medications, and substances that depress brain function, such as alcohol and certain illegal drugs, are known to cause or increase the risk.

Symptoms include slow, shallow breathing, and in severe cases, respiratory failure or death.

Treatment options for respiratory depression depend largely on the severity of the case.

What is respiratory depression?

Respiratory depression refers to a failure of the lungs to exchange carbon dioxide and oxygen. This is a result of slow and shallow breathing.

Respiratory depression is also known as central hypoventilation. In most cases, breathing rates are reduced to 8-12 breaths per minute.

The condition can cause acid to build up in the body and lead to respiratory acidosis, a life-threatening condition associated with organ failure.

Common causes

Certain medications, in particular sedatives, and specific health complications are known to cause or increase the risk. Common causes of respiratory depression include:

White pills.

Respiratory depression may be caused by poisoning or overdose from different substances, including opioids, sedatives, and barbiturates.

opiate or opioid (morphine, tramadol, heroin, fentanyl) overdose

postoperative (after surgery) opioid-induced or anesthetic related respiratory depression

stroke that affects the lower brain stem

ethanol overdose or poisoning
barbiturate overdose or poisoning
sedative overdose or poisoning
benzodiazepine overdose or poisoning
congenital (present at birth) central hypoventilation syndrome (CCHS)
central sleep apnea
severely elevated blood ammonia as seen in liver failure and cirrhosis
brain tumor pressing on the brain stem at the respiratory center

What are the symptoms?
The symptoms of respiratory depression depend on the severity of the case.
In more severe cases, the symptoms of respiratory depression become more evident.

Symptoms of respiratory depression
Associated symptoms include:
confusion
disorientation
lethargy
fatigue
headache
dizziness
nausea

Associated signs include:
shallow, slow breathing with little noticeable chest movement
vomiting
headache
high or low blood pressure
reduced or pinpoint pupils
decreased breathing sounds and a distinct whistling or crackling sound while breathing
tremors
apnea, or abnormally long pauses between breathing followed by a deep sigh sounding breath

bluish-colored or tinted skin, especially in the toes and fingers

seizures

rapid heart rate

If left untreated, severe respiratory depression can result in the following:

respiratory arrest

cardiac arrest

brain damage

coma or death

reduced heart rate

If respiratory depression is suspected, or if several of the typical symptoms occur, seek medical attention immediately. If someone is in the company of someone with these symptoms, it is vital to keep the person alert and moving as much as possible.

Diagnosis

electroencephalogram (EEG).

An electroencephalogram (EEG) may be performed in order to diagnose respiratory depression.

Doctors will usually begin by asking questions about symptoms and reviewing a person's individual medical history and medication profile. They will then perform a physical exam to look for signs of abnormal breathing and heart rhythms.

After an initial visit, a doctor will usually order diagnostic tests to help confirm respiratory depression and evaluate its extent.

Tests used to diagnosis the condition include:

urine and serum drug screens

alcohol level

screen for other toxins

serum ammonia level

blood gas test, to calculate the ratio of acid/base and the amount of carbon dioxide and oxygen in the blood
computed tomography scan (CT) or magnetic resonance imaging (MRI) of the brain to check for stroke or tumor
electroencephalogram (EEG)

Treatment
Common therapies and medications used to treat the condition include:
oxxygen therapy
if caused by overdose, detoxification, often using medications that work against the effects of opioids, such as naloxone, methadone, and Suboxone
fluid therapy, either intravenously or orally administered
continuous positive airway pressure, CPAP, or BiPAP, machines
mechanical ventilation

Prevention
Some cases of respiratory depression are unpreventable, caused by accident or sudden disease. Some cases, however, can be prevented.

Ways to reduce the chances of developing the condition include:
avoiding, or taking extra precautions when using sedative medications
monitoring children while taking prescribed medications
avoiding excessive alcohol use
avoiding or taking extra precautions when using narcotic medications

AIIMS (Dainik Gagaran: 20170822)

Medicines ((Dainik Gagaran: 20170822)

सस्ती दवाओं की राह आसान, 70 फीसद मिलेगी छूट

केंद्रीय स्वास्थ्य मंत्री जमत प्रकाश नहरा शिमला के पिटराउंक में आयोजित कार्यक्रम के दौरान लोगों को संबोधित करते हुए।

नहरा ने शिमला से पंजाब, अरसम व उप्र में अमूम फार्मेसी के 15 स्टोर शुरू किए

राज्य व्यूरो, शिमला

अब सस्ती दवाओं की राह आसान हो गई है। सीमनद को केंद्रीय स्वास्थ्य ने जमत प्रकाश नहरा ने शिमला से पंजाब, अरसम व उपर फ्रेश में दीनदयाल अमूम फार्मेसी के 15 स्टोर को शोधिय एमिक्स से शुरू किया। सीमनद को पंजाब में एक, लखनऊ में दो व अरसम में 12 अमूम फार्मेसी स्टोर में क्रमशः एक, दो और अंतिम के इकाइयों सहित सस्ती दवाएं की उपलब्धी की है।

90 फीसद तक सस्ता होगा क्रियाम पुटने, दिल के स्टेंट सहित अन्य सामान
164 दवाइयों के केंसर की मिलेगी फार्मेसी स्टोर
191 दवाइयों दिल के रोगों की मिलेगी फार्मेसी स्टोर
5200 दवाइयों के लिए अन्य बीमारियों के लिए
एचआइवी संक्रमण से निजात मिलने की उम्मीद। जानलेवा एचआइवी (ह्यूमन इम्यूनोडिफिसिएंसी वायरस) संक्रमण के रोकथाम का नया रास्ता खुल सकता है। अमेरिकी शोधकर्ताओं ने इस दिशा में महत्वपूर्ण सफलता हासिल करने का दावा किया है। विशेषज्ञों ने एचआइवी संक्रमण का पता लगाने और उस पर नजर रखने के नए तरीके का पता लगाया है। इसकी मदद से एचआइवी संक्रमण से बचाव के लिए नई धीरज विकसित किए जाने हैं। शोधकर्ताओं ने बताया कि नए तरीके से संक्रामक तत्वों (वायरांस) का पता लगाया जा सकेगा। इससे संक्रमित सेल्स पर नजर रखना संभव होगा। नॉर्थवेस्टर्न यूनिवर्सिटी के थॉमस होप के मुताबिक वायरॉन द्वारा सेल्स को संक्रमित करने की जानकारी मिलने से एचआइवी संक्रमण के फैलाव को रोकने में मदद मिल सकती है। साथ ही इसके लिए नए तरीके भी विकसित किए जा सकते हैं। मानूस हो कि भारत समेत दुनिया भर के कई देशों के लाखों लोग एचआइवी-एड्स की चपेट में हैं। -प्रेट्र।

आर्थराइटिस के खतरे से बचाएगी गर्भनिरोधक गोलियाँ। महिलाओं में गर्भनिरोधक गोलियाँ का प्रचलन बढ़ाना जा रहा है। डॉक्टर इसके ज्यादा सेवन से स्वास्थ्य पर कई तरह के दुष्प्रभाव की बात कहते रहे हैं। लेकिन, स्वीडिश शोधकर्ताओं के ताजा शोध में इसके सकारात्मक प्रभाव के बारे में पता चला है। ताजा अध्ययन के मुताबिक गर्भनिरोधक गोलियाँ महिलाओं में आर्थराइटिस के खतरे को कम करती हैं। खासकर जोड़ों में होने वाली तकनीकी की आशंका में कमी आती है। इसमें स्मैटोड आर्थराइटिस (गतियों से ग्रस्त जोड) कहा जाता है। यह बीमारी पुरुषों की तुलना में महिलाओं में ज्यादा होती है। पीड़ित की हड्डी और जोडों में इसकी वजह से असहनीय पीड़ा होती है। अध्ययन में शामिल महिलाओं में से सात वर्ष या इससे ज्यादा समय से गर्भनिरोधक गोलियाँ का सेवन कर रही महिलाओं में आर्थराइटिस का खतरा 19 पीसद तक कम पाया गया। -
दिल्ली के बच्चों में बढ़ रही है नशा करने की आदत

उड़कर बचपन

Rahul Awasthi

द्रव्यों के नशे के विपणन का कारण नहीं है। द्रव्यों के नशे का उपयोग जानकारी सुरक्षा के लिए महत्वपूर्ण है। तदनुसार आंदोलन की आवश्यकता है।

नशा करने के विद्युत के माध्यम से ज्ञान प्राप्त होने के लिए प्रता कर्म सेवकों के लिए समस्या का सामना करने का अंतर्गत है।

नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए नशा करने के लिए

परिस्थिति की दशा

32

राष्ट्र कर्मी ने कहा कि पश्चात्ताप नमक लाया है।

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परिस्थिति की दशा

12

पॉलिटरी के दृष्टिवात में एक लाइकर लाया है।

4

बच्चे इन नशे की गिरफ्त में

51

नशे का सामना करना

40

राष्ट्रवाद या उपस्थापना करने के लिए बच्चे ने कहा कि क्षेत्र बाल विकास की वजह से लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है। लाइक है।
1 अगस्त को गंगाराम अस्पताल में हुई मौत की पुष्टि

12 साल का बच्चा बना डेंगू का पहला शिकार

स्वाइन फ्लू ने अब तक ली 37 की जान