October - December 2017 • Volume 5 Number 4

Medical Bulletin

News You Can Use

Raised Blood Platelet Levels: 'A Strong Predictor' of Cancer

Around two per cent of people over 40 have a raised blood platelet count - known as thrombocytosis. **Having a high blood platelet count is a strong predictor of cancer and should be urgently investigated to save lives, according to a large-scale study.**

Now, a study of 40,000 patient records led by the University of Exeter Medical School found that more than 11% of men and 6% of women over the age of 40 with thrombocytosis went on to be diagnosed with cancer within a year. This rose to 18% of men and 10% of women if a second raised platelet count was recorded within six months. **Lung and colorectal cancer were more commonly diagnosed with thrombocytosis.** One-third of patients with thrombocytosis and lung or colorectal cancer had no other symptoms that would indicate to their GP that they had cancer.

The paper, published in the *British Journal of General Practice,* calls for GPs to consider a diagnosis of cancer in patients with unexpected thrombocytosis, to increase early diagnosis which can save lives. The researchers calculate that if only a conservative estimate of 5% of patients with cancer have thrombocytosis before a cancer diagnosis, one-third of them have the potential to have their diagnosis expedited by at least three months by the identification of this risk marker, equating to 5,500 earlier diagnoses annually. **The study has revealed the first new indicator of cancer to have been robustly identified in 30 years.**

Greetings from Blue Cross Laboratories!

Dear Colleagues,

Hope all of you are in the best of health and spirit, and are looking forward to a wholesome and wonderful Holiday Season ahead !

It gives me immense pleasure and satisfaction to present you with the third issue of the Blue Cross Medical Bulletin for this financial year.

This issue will have you updated on a few recent medical developments, and clinical insights involving novel discoveries/avenues in diverse therapeutic categories. We have also included a brief tutorial. These topics will make for interesting reading.

I am sure you would enjoy reading this edition of the Medical Bulletin as you did in the past. Please do remember to send in your feedback, so that we can incorporate the same in future editions.

Happy Reading!

Wishing you and your families a joyous and safe Holiday Season !

Cheers!

Best wishes & Warm regards,

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Dietary Vitamin D and Calcium Lowers Risk of Early Menopause

A high intake of dietary vitamin D and calcium may be associated with lower risk of early menopause (cessation of ovarian function before age 45), says a study.

Early menopause affects about 10 per cent of women and is associated with a higher risk of cardiovascular disease, osteoporosis and early cognitive decline.

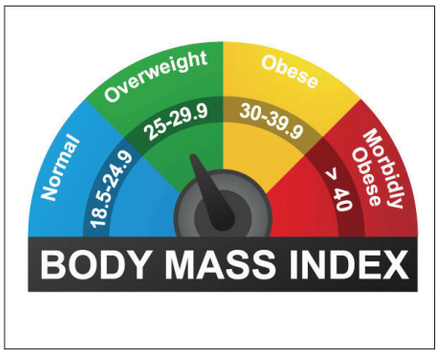
In a study published online in *American Journal of Clinical Nutrition,* researchers evaluated how vitamin D and calcium intake is associated with the incidence of early menopause.

The researchers observed that vitamin D from food sources, such as fortified dairy and fatty fish, was associated with a much lower risk of early menopause (approximately 17%) when highest intake group was compared to the lowest intake group. This is plausibly related to vitamin D's role in modulating some of the hormonal mechanisms involved in ovarian aging.

Short Tutorial:

Know Your Body Mass Index (BMI)

Body mass index (BMI) is used to determine whether you are in a healthy weight range corresponding to your height. BMI gives you an idea of whether you're **underweight, healthy weight, overweight or obese for your height.** Although your BMI does not actually "measure" your percentage of body fat, it is a useful tool to estimate a healthy body weight based on your height. Due to its ease of measurement and calculation, **it is the most widely used diagnostic indicator to identify a person's optimal weight depending on height.** However, due to the wide variety of body types, the distribution of muscle and bone mass, etc. it is not appropriate to use this as the only or final indication for diagnosis.



BMI is a useful measurement for most people over 18 years of age. But it is only an estimate and it doesn't take into account gender, age, ethnicity and body composition. **Therefore, along with BMI, another important tool to evaluate risk for chronic disease is waist circumference, as it helps assess other risk factors.**

BMI table for Adults

The World Health Organization's (WHO) recommended BMI values based on bodyweight categories for adults is used for both men and women, age 18 or older.

Category	BMI range - kg/m²
Severe Thinness	<16
Moderate Thinness	16-16.99
Mild Thinness	17-18.49
Normal	18.5-24.99
Overweight/Pre-obese	25-29.99
Obese Class I	30-34.99
Obese Class II	35-39.99
Obese Class III	>40

Note: This calculator shouldn't be used for pregnant women or children

How to calculate BMI?

The easiest way to measure body fat and gauge obesity is to calculate body mass index (BMI).

$$\text{Body Mass Index} = \frac{\text{Weight (kg)}}{\text{Height}^2 \text{ (metres)}}$$

For example: If your weight is 75 kg and your height is 173 cm, then convert cm to metre i.e., 173/100 = 1.73

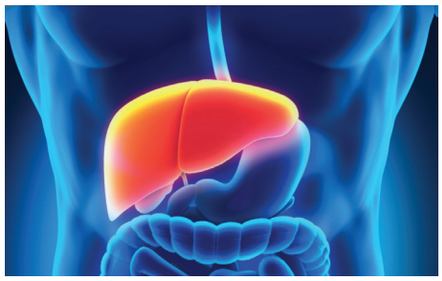
- 75/1.73 x 1.73
- 75/2.99
- Your BMI is 25, suggesting that you are overweight.

For children BMI is age and gender specific, as BMI changes as children get older. Whether a child is overweight or obese can be gauged by plotting their BMI on an appropriate growth chart.

High Body Mass Index (BMI) Linked to Liver Disease in Later Life

Obesity rates are increasing on a global basis. As is well documented, obesity comes with a range of negative health consequences, including cardiovascular disease, diabetes, cancer, gallbladder disease, and osteoarthritis.

Studies have demonstrated that a high BMI in adolescent men is associated with an increased risk of death from, or hospitalization for, end-stage liver disease later in life. Even when variables such as alcohol consumption, smoking, and the use of narcotics were taken into account, the relationship was still significant. However, to date, this link between BMI and liver disease has not been examined in sufficient depth.



A group of Swedish researchers led by Dr. Hannes Hagström, of the Centre for Digestive Diseases at the Karolinska University Hospital in Sweden, delved into data from 1.2 million Swedish men. **The analysis demonstrated that overweight men were almost 50 percent more likely to develop liver disease in later life than men of a normal weight. Similarly, obese men were more than twice as likely to develop liver disease further down the line.** This effect was even more pronounced for men who also developed type 2 diabetes. **Participants with both obesity and type 2 diabetes were more than three times more likely to develop liver problems as they aged, compared with normal-weight men without type 2 diabetes.** Because the study was conducted on such a large scale, **the findings have serious health implications.**

Researchers Discover A New Method To Diagnose Atherosclerosis

Researchers have found a new method to assess heart diseases, which is within everyone's reach. According to a new study published in the *Anatomical Record,* **scientists found that peripheral arteries that are easily accessible by ultrasound, may be useful for assessing a patient's risk for ischemic cardiovascular disease, thus becoming an important diagnostic tool.**

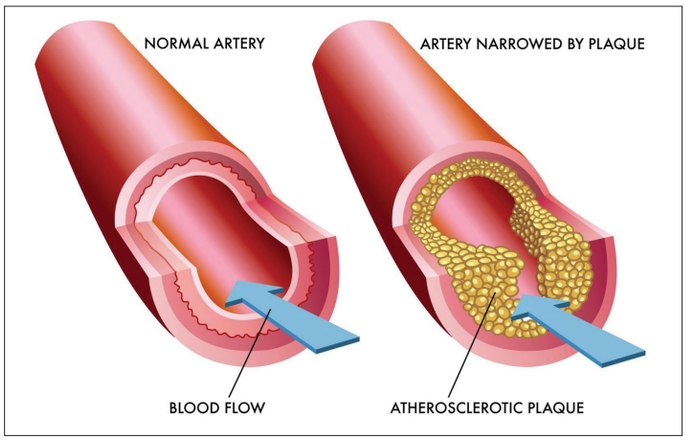
While previous research primarily used ultrasound, a research team at the New York Institute of Technology College of Osteopathic Medicine (NYITCOM)-Department of Anatomy performed a **study using histopathology to grade atherosclerosis development, the findings of which suggest a new way to measure systemic atherosclerosis.**

In the research, the scientists studied the arteries of cadavers to determine the risk factors for atherosclerosis, sampling arterial segments (carotid, central and peripheral arteries). The sampled segments of the arteries were compared to the clinically-relevant arteries of the torso in order to investigate the distribution of atherosclerosis. **The researchers specifically utilized histopathology to confirm as well as expand the search for correlations among arteries compared to the other arteries that may be associated with ischemic diseases.**

This study demonstrates that the radial artery, a peripheral vessel, exhibited a positive correlation between both the pathologic left coronary and bifurcation of the carotid arteries.

As such, they propose evaluating the radial artery as a clinically-accessible location to monitor with ultrasound when assessing a patient's risk for ischemic cardiovascular disease.

Further studies are underway.



Short Tutorial:

Cold or Allergies? How Can You Tell the Difference?

Although the symptoms of colds and allergies may be similar, there are also many differences. Variations in the history of the illness and duration of symptoms often offer clues as to which condition is present.

Similarities between allergies and colds

Cold and allergies do share similar symptoms. For example, both conditions can affect the respiratory system. Common symptoms that can occur with either a cold or allergy include:

- Runny nose
- Nasal congestion
- Coughing
- Sneezing
- Sore throat
- Post-nasal drip
- Conjunctivitis

How can you tell the difference?

Characteristic	Cold	Allergy
Duration	3-14 days	Days to months – depends on exposure to particular allergen
Time of Year	Most often winter, but anytime of the year	Anytime of the year, but some are seasonal
Onset of Symptoms	A few days after infected by virus	Immediately after exposure to allergen
Coughing	Often	Sometimes
Sneezing	Often	Often
Aches	Sometimes	Never
Fatigue	Sometimes	Sometimes
Fever	Rarely	Never
Itchy, Watery Eyes	Rarely	Often
Sore Throat	Often	Sometimes
Runny/Stuffy Nose	Often	Often

Pain Killer Not Working ? First Make Up for Sleep Loss

Novel research examines the link between sleep deprivation, pain sensitivity, and common painkillers, and finds surprising connections. In the future, these findings could help patients with chronic pain to better manage their discomfort. The study was carried out by researchers at Boston Children's Hospital and Beth Israel Deaconess Medical Centre (BIDMC), both in Boston, MA, and their findings were published in the journal *Nature Medicine.*

The team investigated the impact of acute and chronic sleep deprivation, as well as the resulting sleepiness, on sensitivity to painful and non-painful stimuli. They also examined the effect of common painkillers such as ibuprofen and morphine, alongside the effect of wakefulness-promoting drugs such as caffeine and modafinil, on pain sensitivity.

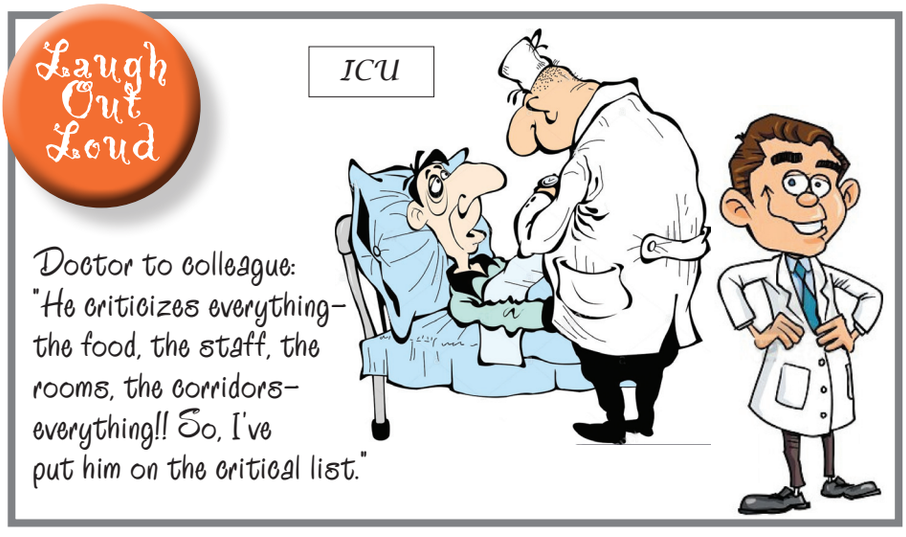
The study conducted on mice revealed a strong connection between sleep deprivation and pain sensitivity. It was found that 5 consecutive days of moderate sleep deprivation can significantly exacerbate pain sensitivity over time in otherwise healthy mice. The response was specific to pain, and was not due to a state of general hyperexcitability to any stimuli. **Probably the most surprising finding was that common painkillers seemed to have no efficacy in alleviating pain induced by sleep deprivation.** Neither ibuprofen nor morphine could prevent or stop the effects of the hypersensitivity induced by sleep loss.

Large Meta-Analysis Identifies New Genes Associated with Intelligence

Forty new genes associated with intelligence are reported in a paper published in *Nature Genetics.* The study could provide new biological insights into brain function and cognition, and help to define the genetic component of IQ.

Danielle Posthuma and colleagues performed an **analysis of genetic data related to measurements of intelligence (a meta-analysis of genome-wide association studies [GWAS] for intelligence) for nearly 80,000 individuals** of European descent, including both childhood and adult cohorts. The large sample size provided the authors with the analytical power to identify so many novel genes.

The authors then shed light on the specific regions of the genome that contribute to intelligence. They found 22 genes, 11 of which are novel, that are associated with intelligence using one type of analysis (GWAS) and an additional 29 novel genes using another approach (genome-wide gene association analysis [GWGAS]). **These genes are mainly expressed in the brain and are involved in cell development pathways. This information can help researchers focus their studies on specific genes and pathways to learn more about intelligence and brain development.**



Published by Blue Cross Laboratories Pvt Ltd., Peninsula Chambers, Ganpatrao Kadam Marg, Lower Parel, Mumbai 400 013. (For private circulation only)