



SERUM TIMES

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SERUM MEDICAL BULLETIN

From the desk of the Editor-in-Chief

Dear Readers/Doctors,

I hope you are doing well. We are going to overcome the extreme heat situation as we are going to enter the rainy season. The IMD has already forecast a possibility of more than normal rainfall this year. So, the news has been a respite for us and our economy. We expect to discuss health problems related to the rainy season in the July issue.



Many of us have been, perhaps, anxious for some negative news about the Covishield Covid vaccine. But many experts also think we should not be worried about that as anything concrete is yet to come out.

A recent study by the National Institute of Nutrition (NIN) which works under ICMR has observed several problems regarding the food habits of Indians. In its report, NIN has urged us to avoid protein supplements, restrict salt intake, minimize sugar and ultra-process food, and choose healthy food for our well-being. The report also pointed out that healthy diets and physical activities can reduce a substantial portion of coronary heart diseases and hypertension and prevent up to 80% of type 2 diabetes.

In Kerala, the epidemic of the West Nile virus has been in the news for more than two decades. More significant in this case is about 80% of cases were asymptomatic. Unreported cases and asymptomatic cases may be more than officially reported cases, according to some reports. But this year several cases have already been reported even before the arrival of South West monsoon and hence it is more worrisome. Many cases are also found in neighbouring states. So, we request you to be cautious about this and try to avoid touring there.

In this issue, we are going to discuss anaphylaxis as the main story in story 1. It is also called a hypersensitive reaction. It is a very common disease and more than 1 million cases are found every year in India. It is a life-threatening allergic reaction disease. It can happen seconds or minutes after you are allergic to, say, peanuts or bee stings. Its symptoms, causes and how to cure, etc. will be discussed in detail there.

Story 2 is concerned with why people move slower as they grow older. Some of the known biological reasons have been slow metabolism, loss of muscle mass, and people becoming less active as they age. But a new study has observed different causes of it and that has been explained in story 2.

Again, wish you healthy and happy coming days.

With regards

Sanjib Acharya

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Anaphylaxis - a life-threatening allergic reaction

Anaphylaxis is when you have a severe allergic reaction. It happens after eating some foods or getting stung by an insect to which a person is allergic. There are some signs of it. These are a) airway shortness of breath, being unable to swallow b) skin hives, redness, itchy rash, swelling c) stomach cramps, diarrhoea, nausea, and vomiting d) drop in blood pressure, increased heart rate, weak pulse, and feeling faint.









Why does it happen?

When a person is allergic to something his/her immune system overreacts by releasing chemicals like histamine. The reaction may affect several areas of his/her body at once. It tends to happen suddenly and quickly. But in many cases, there can be mild signs like skin rash, redness, itching, or hives. Then it may go to stage two or moderate state and stage three and signs of the disease are intensified accordingly. But at the life-threatening stage, several signs of the disease are seen with more intensity.

What causes anaphylaxis?

Food comes first as the cause. Foods that can be responsible for this include cow's milk, eggs, peanuts, shellfish (shrimp and lobsters), soy, tree nuts (like walnuts, hazelnuts, and cashews), wheat, and some seeds like sesame seeds and sunflower seeds. Some medications may lead to anaphylaxis. That includes penicillin, non-steroidal anti-inflammatory drugs and dye used for CT scans. Some latex is found in items such as disposable gloves, catheters, and adhesive tapes. Another important source of this has been insect stings from bees, wasps, hornets' yellow jackets, and the like.

Diagnostic tests of anaphylaxis

COMMON TRIGGERS			
 NUTS	 MILK		Shortness of Breath
 SHELLFISH	 EGGS		
 MEDICATIONS * Penicillin * IV contrast agents			Skin hives/ itching
 INSECT STINGS			

Allergists are generally recommended for skin and blood tests. A skin test places a small amount of allergen on your skin to see if it causes a reaction. Another is a blood test. The blood test will be given to measure the amount of certain enzyme, tryptase, for example, that can be elevated up to three hours after anaphylaxis.

Anaphylaxis in India

Overall case data is not readily available. However, a systematic review of drug-induced anaphylaxis in India from published studies between 1998 and 2013 is available. A report said that reactions occurred in peri-operative settings (53.7%), wards (20.4%), and home (11%) with the main culprits being antimicrobials (18.5%).



Stomach

- Cramps.
- Diarrhea.
- Nausea and vomiting.

Why people move slower as they age- new study found revealing causes

The knowledge so far

A generally known fact is that people move slower as they age and that has been a natural phenomenon. This is natural as the metabolism of older people becomes slower, and muscle mass becomes slower and less active. However, new research has observed that older adults may move slower partly because it costs them more energy than younger adults. The study was done at the University of Colorado Boulder. The new research was first published in the Journal of Neuroscience. The researchers of this revealing study think that this new information may help lead to new diagnostic tools for diseases such as Parkinson's disease and multiple sclerosis.

Research method

The researchers recruited 84 healthy participants. Among them, some were younger adults ages 18 to 35 and some were older people ages 66 to 87. During the study, they were asked to reach for a target on a screen holding a robotic arm in their right hand. The robotic arm operated similarly to a computer mouse.

Analysis of the pattern of movement

The pattern of how the participants performed their reaches is crucial for the study. The scientists found that older adults modified their movements at certain times to help conserve their more limited amounts of energy compared to young adults.

Some explanations

It is reported that Alaa A Ahmed, professor at the College of Engineering and Applied Science of the University of Colorado Boulder and team leader of the research, said that with age human muscle cells might become



lessefficient in transforming energy into muscle force and ultimately their movement. He also reportedly said, "We also become less efficient in our movement strategies, possibly to compensate for lower strength. So we recruit more muscles, which cost more energy to perform the same task."

What about brain's reward circuitry function as we age?

The researchers also studied it with the computer mouse after the first target was examined. In that case, also the younger reached with robotic arms about 17 milliseconds sooner on average.

Potential for diagnostics for Parkinson's

Researchers believe that their findings may help lead to new diagnostic tools for movement-related tools like Parkinson's. Slowing of movements not only occurs with age but is a symptom of several neurological disorders.

Ahmed's one observation is important. He said that tracking someone's movements either in the lab or throughout their daily activities may at some point provide a valuable biomarker of neurological health.



CASE PRESENTATION by Dr. Chirasri Goswami (MBBS, MD) Consultant Histopathologist

CASE PROFILE: Generalised lymphadenopathy in 61-year-old male patient.

H/P REPORT: Consistent with Non-Hodgkin's Lymphoma.

SPECIMEN RECEIVED: Labelled paraffin wax block.

IMMUNOHISTOCHEMISTRY: Was performed based on following antibody clones:

CD-20 - Mouse Monoclonal Antibody | PAX-5 - Rabbit Monoclonal Antibody
CD-10 - Rabbit Monoclonal Antibody | CD 30 - Rabbit Monoclonal Antibody

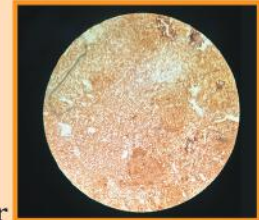
RESULTS:

CD-20 – Strongly Homogenous Positive. | PAX-5 - Strongly Homogenous Positive.
CD-10 - Positive in 20% cells. | CD 30 – Positive in 20% cells.

Final Diagnosis: Diffuse Large B Cell Lymphoma (DLBCL).

DISCUSSION:

CD-20 is pan B cell marker. | PAX-5 is a B cell marker which shows positivity even when neoplastic cells do not express CD20 (post Rituximab therapy / classic HL).
CD 30 is also 20% positive which indicates a better outcome in DLBCL treated with R – CHOP chemotherapy regime. | CD-10 positivity is a marker for germinal centre phenotype IHC with BCL 6 & MUM 1 also suggested to differentiate between germinal centre & non germinal centre subtype.



CSR Activities & Events of SERUM throughout May, 2024

May 2 - 8: Week long Thalassemia Awareness Week for the occasion of World Thalassemia Day



May 2: Press Conference held at the Press Club, Kolkata



May 3: Thalassemia Awareness Drive at Vivekananda Milan Sangha, Baghajatin



May 5: Blood Donation Festival at Serum Auditorium



May 8: Celebration of Rabindra Jayanti & World Thalassemia Day



May 1: Sri Sanjib Acharya at the 19th Foundation Day celebration of Manna Dey Sangeet Academy held at Dr. Triguna Sen Auditorium, Jadavpur University



May 5: Sri Sanjib Acharya was present as the Special Guest at the Sit & Draw Competition organized by Sampratik North



May 11: Sri Sanjib Acharya was present at the Voluntary Blood Donation Camp organised by Shyambazar Uttar Prantik Club



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