



SERUM TIMES

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SERUM MEDICAL BULLETIN

From the desk of the Editor-in-Chief

Dear Readers/Doctors,

We hope you are still safe in this summer. In India, heat waves are being experienced in several parts of India including in West Bengal. When do we say heat waves are continuing? When unusually hot weather with above-normal temperatures typically lasts three or more days. It harms both the health of the people and economies. We again like to point out some essential precautions that you can take to make you safe in this terrible weather condition.



First, stay hydrated by drinking plenty of fluids like water, and electrolyte-rich beverages throughout the day. Secondly, avoid direct sun, particularly, between 11am & 3pm. Use an umbrella, if you cannot avoid outside duty, this may also protect your skin and heat-related illness. Thirdly, try to stay in a cool environment where the place is ventilated. Fourthly, take bath at least twice with cool water. Fifthly, watch on elderly members, children, and those who are ill in your family. Sixthly, do not stay in parked cars or vehicles even for a short duration. Lastly and very importantly know about symptoms of heat-related diseases like heat exhaustion, heat stroke, excessive sweating, dizziness, nausea rapid heartbeat, and fainting. At the same time please eat light and hydrated snacks, and herbal teas, and avoid heavy and greasy foods.

In this issue in Story 1, we will discuss the diseases that one should have at least preliminary ideas for our own health welfare which is known as Adrenal Disorder. It is a hormone-related disease. The gland is small and located just above each kidney. Hormones produced in the adrenal glands include cortisol, adrenaline, and aldosterone. The production of these by too little or too much amount affects our body functions. An adrenal crisis happens when there is a severe lack of cortisol. This disorder can happen to anyone.

The Story 2 is concerned with a new discovery of asthma treatment. Recently scientists at King's College London have discovered a new cause for asthma and it has sparked the hope for full treatment of the life-threatening disease.

The recent Global Burden Disease 1990-2019 estimated the total burden of asthma in India as 34.3 million, i.e., 13.09% of the global burden. It also attributed that there were 13.2 per thousand deaths due to asthma in India.

Hope that the two stories will help you to be enlightened about health matters in our society.

Wish best wishes

Sanjib Acharya

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Adrenal disorder: at times cause remained undetected

Adrenal glands are located at the top of both kidneys. It produces hormones that regulate the immune system, blood pressure, metabolism, and stress response. It has other functions like helping proper cardiovascular functions, utilizing carbohydrates and fats, giving body odor and pubic hair, and promoting healthy gastrointestinal functions.

What causes adrenal disorder?

Adrenal gland disorders are caused by problems with the glands themselves that cause overproduction and underproduction of hormones. They are also caused by problems in other glands, such as the pituitary gland. Sometimes genetics also play a part in certain disorders. Also at times, causes are not found. When the human body does not make enough of cortisol hormone and too little of another hormone it is called Addison's disorder. It can happen to anybody and it may be life threatening.

Symptoms of this disorder

There are many symptoms. Among them extreme fatigue, loss of body weight and appetite, darkened skin, very low blood pressure and low blood sugar, and salt cravings are common. Other symptoms include nausea, diarrhea or vomiting, abdominal pain, muscle and joint pain, irritability, depression, and body hair loss or sexual issues in some cases. One can see a doctor if these symptoms are observed.

Some risk factors for developing Addison's disease

Experience shows that most people who get Addison's disease do not have any factors that put them at higher risk of this disease. But some risk factors are there. The first is if a person has a disease or surgery that affects the pituitary gland or the adrenal glands. Secondly, there may be some genetic changes that affect the



pituitary gland or adrenal glands. Thirdly, there can be other autoimmune endocrine conditions, such as hypothyroidism or type 1 diabetes. Fourthly, it may be a traumatic brain injury.

Diagnosis of the disorder

Doctors will talk to the patients and then may order tests to determine the levels of hormones in their saliva, blood, and urine. If doctors suspect the presence of tumours then they might order imaging tests such as CT scans, MRIs, or nuclear imaging tests.

Treatment for adrenal gland disorder

Doctors may have a variety of surgical and medical treatments for adrenal gland disorders.

- One option has been going for surgery to remove tumours in the adrenal gland. Also, when appropriate, surgery to remove both of the adrenal glands.
- Minimally invasive surgery is performed through the nostrils to remove the tumours in the pituitary gland.
- Appropriate medicines to stop the excess production of hormones.
- Hormone replacement is also a way to treat.



New discovery of cause for asthma – may open a new door for its permanent cure

A common idea about asthma is that it is an inflammatory disease. It attacks or constricts the airways which makes breathing difficult. A new discovery about the cause of asthma suggests that blocking a process that normally causes epithelial cell death could prevent the damage, inflammation, and mucus that result from an asthma attack.

The current method of treating asthma

Despite having the commonality of the disease, the causes of asthma are still not understood. Current medications treat asthma by opening the airways, calming inflammation, and breaking up the sticky mucus that clogs the airway. This helps control asthma but does not prevent it or treat it completely.

Methodology of new research

Scientists at the King's College London used the mouse lung models and human airway tissue. They discovered that when the airways contract which is known as bronchoconstriction, the epithelial cells that lined the airways got squeezed out to later die. As bronchoconstriction caused so many cell extrusions, it damaged the airway barrier which caused inflammation and excess mucus.

In the research, the scientists found that the chemical compound gadolinium could block extrusion. However, the researchers experimented with their observation only on mice. But whether the gadolinium can prevent the excess extrusion that causes damage and inflammation after the asthma attack in the human body safely and efficiently is to be experimented with in the next phase.

It is reported in ScienceDirect that Professor Brightling from the University of Leicester who is also a co-author of the study said that the study identified a new process known as epithelial extrusion whereby



damages to the lining of the airway occurred as a consequence of mechanical constriction and could drive many of the key features of asthma.

Dr. Samantha Walker, Director of Research and Innovation at Asthma+ Lung, UK reportedly said that current medications for asthma worked by treating the inflammation and using inhalers every day. But that was not effective for everyone. About 31% of people with asthma did not have these treatment options that worked for them. That had put them at risk of potentially life-threatening asthma attacks. "This discovery opens new doors to explore new possible treatment options desperately needed for people with asthma rather than focusing solely on inflammation", said Dr. Walker.





CSR Activities & Events of SERUM throughout April 2024



Apr 4: General Meeting of Serum Thalassemia Prevention Federation held at Serum Auditorium



Apr 7: Sri Sanjib Acharya at the ECG, Blood Sugar & free Eye checkup camp



Apr 7: Sri Sanjib Acharya at the Foot Rally org. by Amra Mohilara on World Health Day



Apr 11: Ek Sandhya Bahu Sur a memorable New Year's Eve program organized by Serum Thalassemia Prevention Federation at University Institute Hall



Apr 6: Sri Sanjib Acharya at Bangalore for 2 days Diagnostic Conference



Apr 10: Sri Sanjib Acharya at the Bangiya Homoeopathic Medical Practitioners Association for the 270th Birthday Celebration of Dr. C.S.F Hahnemann at Moulali Youbo Kendra (Swami Vivekananda Auditorium Hall)



Apr 19: Thalassemia Awareness Programme organized at Sailendra Sircar Vidyalaya



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Chief Editor: Sanjib Acharya.

Website: serumanalysiscentre.com | e-Mail: serum.kol@gmail.com |

Phone: +91 62895 32188 / 98302 74990 / 98300 16594

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