

# SERUM TIMES

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SERUM MEDICAL BULLETIN

## From the desk of the Editor-in-Chief

Dear Doctors/Readers,

Hope you are well. We are passing through the third wave of Covid 19. As on 29th of January, India recorded 2.3 lakh new Covid cases. But at the same time the positivity rate declined to 13.39%, according to government of India reports. People are willing to go out for regular works. Students are eagerly waiting for joining schools as early as possible. But we should not think that there is no Covid danger in the days to come. We should remain cautious but not panicky.



In this issue we are going to discuss detection of antinuclear antibodies (ANA) test in human body. The ANA is also called antinuclear factor (ANF). Antinuclear antibody attacks our bodies' own tissues, specially targeting each cell nucleus, that reduces the immunity capability of the body. In some cases antibodies to human antigens are produced. The ANA or ANF is auto antibodies that bind to contents of the cell nucleus. In normal individuals, the immune system produces antibodies to foreign proteins (antigens) but not to human protein (autoantigens).

What is an ANA test?

The ANA test is blood test that looks for certain kinds of antibodies in human body. Sometimes human body system can mistakenly take parts of human body for foreign invaders. It releases special antibodies called autoantibodies, that attack human cells and tissues. In that case autoantibodies can damage joints, skin, muscles and other parts of human body. The ANA test detects the anti auto-antibodies present in an individual's blood serum. But one has to check how far it is harmful even if it is positive.

Prevalence of different ANA patterns

Some studies observed that the patient population belonging to 30 to 49 age group, maximum of them had an underlying skin disorder, followed by patients with infections and inflammatory conditions. The next are matters with various rheumatoid diseases with age peaks, adolescents and young adults. A similar peaking was seen with the haematological conditions. A study (Journal of Laboratory Physician, Gupta Priya and Mahapatra) on 538 ANA reported 33% (179) were positive for ANA. Out of these 74% were women. In India it is known that the central part of Madhya Pradesh is the most ANA prevalent place in the country.

The next story will discuss more on the subject. Before concluding I again request you to maintain Covid protocol and stay safe.

With Thanks,

Sanjib Acharya

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## Antinuclear antibodies (ANA) is a treatable disease

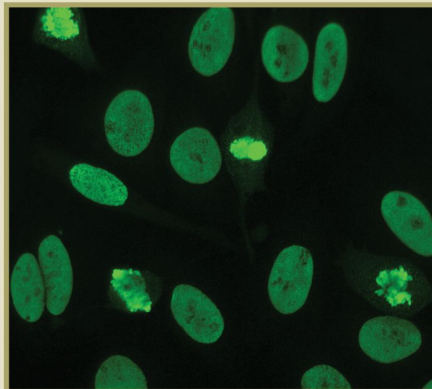
Antinuclear disease is caused by presence of antinuclear antibody. There are many diseases that are caused by its presence in blood. Some important diseases are 1) systemic lupus erythematosus 2) Rheumatoid arthritis, a condition that causes pain and swelling of the joints, mostly in hands and feet. 3) Scleroderma, a rare disease affecting skin, joints, and blood vessels. 4) Sjogren's syndrome, a rare disease affecting the body's moisture making gland.

### Test for presence of ANA

Doctors prescribe for ANA test when there are some signs like joint and / or muscle pain, stiffness or swelling tiredness and recurring or persistent fever. Other symptoms include weakness, light sensitivity, numbness and tingling in your hands or feet and hair loss. The ANA test does not require any preparation. But patients should inform his/her doctor what medicines, vitamins and supplements are being taken. They can affect the ANA results.

### ANA test results and its implication

If blood test shows ANA positive then it implies presence of ANA in patients' blood. A negative result means it found none. But a positive test does not mean that a person is in autoimmune condition. Studies observe that between 3% and 15% of people with no conditions have ANA. Some medicines or other diseases also can cause them. On the other hand not everyone who has an ANA test positive is with ANA diseases. It is also found that about 20% of healthy people will test positive for ANA even



though they do not have an autoimmune disease. A person is more likely to get false ANA results if 1) the person is a woman of age 65 or more, 2) has an infection such as mononucleosis or tuberculosis, 3) takes blood pressure or anti-seizure drugs.

### There are other tests to confirm ANA

The ANA test only shows that you may have an autoimmune disease. It can not detect the exact one. So doctors can suggest for other tests that are specific to certain diseases. These may be - 1) an anti-centromere test diagnoses scleroderma, 2) an anti-double stranded DNA test diagnoses lumps, 3) an anti-histone test diagnoses lumps that was caused by medicine one takes, 4) an ENA panel helps one's doctor see which autoimmune disease a patient has.

### Conclusion

ANA testing can produce a positive result without any actual disease process. This typically signals the presence of ANA in a healthy individual. Therefore, a patient should talk to his/her doctor about a positive ANA and the best next steps for further evaluation.

## Morning exercise can improve decision making across the day

Recently a study on the older Australians has found that in the morning a moderate exercise can improve conscious intellectual activity among the older persons, i.e., it improves thinking, reasoning or memory of people. So, some simple exercise improves cognitive performance like decision making across the day compared to prolonged sitting without exercise. The findings of the study had been published in Science Daily on 19 April, 2019.

### Methodology of the study

The researchers chose 65 males and women aged between 55 and 80 years. They examined the effects of acute morning exercise on a treadmill with and without brief three-minute walking breaks during an 8-hour day of prolonged sitting. Then they were assessed aspects of cognition and concentration including psychomotor function and attention. At the same time executive function such as decision making, visual learning and working memory were also examined.

### Science in favour of the findings

The benefits of exercise on learning and memory are brain-derived neurotrophic growth factors. A protein plays an important role in the survival and growth of information-transmitting neurons in the brain. It is found that this protein was elevated for eight hours during both exercise conditions relative to prolonged sittings. The reported quoted Michael Wheeler, a physical activity researcher as saying, "the study highlights that uninterrupted sitting should be avoided to maintain optimal cognition



across the day". He also reportedly said that the study revealed that not all aspects of cognition responded in the same way to a given dose of exercise. It might be possible to change the pattern of activity across the day to get more specific cognitive results.

### Conclusion

The study reveals the fact that with relatively simple changes to one's daily routine that could have a significant benefit to one's cognitive health.

## CSR Activity of SERUM throughout January, 2022



Jan 5 & 14: Launching of Calendar 2022 designed by the paintings of thalassemic children and e-Sumadhyama at the Kolkata Press Club & Siliguri Journalists Club



Jan 2: Annual General Meeting of North Bihar



Jan 12: Launching of Health Card with Shyam Sunder Co. Jewellers at Agartala Press Club



Jan 26: 73rd Republic Day Celebration by giving winter clothes to underprivileged persons and Free Health Check-up



Jan 23: 125th Birthday celebration of Netaji at Serum Auditorium



Jan 22: Free Doctor's Clinic & Diagnostic Service

Jan 25: Sri Sanjib Acharya at the International Seminar on Sri Chaitanya Janmotsava & Mela Organised by Gaudiya Mission Bagbazar, Kolkata, to address the Audience on the Role of Theology in World Peace.



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