

SERUM TIMES

Monthly | Volume-VI | Issue-II | February-2021

SERUM MEDICAL BULLETIN

From the desk of the Editor-in-Chief

Dear Doctors/Readers,

We hope this New Year will really be a happy year as the fear of pandemic has been gradually receding. The number of new COVID 19 infected patients has been falling down. Moreover, the Covid vaccination has been started in all the States and Union Territories. At the same time a section of people is doubtful about the safety of the vaccination. But Government of India is trying to clarify all the doubts related to the COVID 19 vaccination. But we have to maintain a healthy life, do our regular works and live a normal life.



In this issue we are going to discuss an important health related issue. This is related to kidney of human body. We all know that what a vital role kidney plays in running human living body. Kidney's primary function is to filter blood. Waste and excess water gets removed and turn into urine. The level of salts and minerals in blood are adjusted with the help of kidney to maintain a healthy balance in different element in the body. Moreover, kidneys produce hormones that regulate blood pressure, maintain bone health and control production of red blood cells.

In this context we are going to focus on a specific kidney related matter. This is measurement of estimated glomerular filtration rate (eGFR or GFR). It is considered as the most accurate way to the changes in kidney function. GFR is equal to the total of the filtration rates of the functioning nephrons in the kidney and help determine the extent of chronic kidney disease (CKD) in an individual.

CKD in India

It is prevalent in India. It is high considering morbidity and mortality. So, in India it has become a very big issue of public health. As per Indian Council of Medical Research Data prevalence of diabetes in Indian adults' population has risen to 7.1% (varying from 5.8% in Jharkhand to 13.5% in Chandigarh). In urban population (over the age of 40 years) the prevalence is as high as 28%. Again, hypertension rate in adult population today is 17% (14% in rural and 21.4% in urban).

So, we need to be careful about rising kidney diseases in India. The next article will touch some other important issues in GFR.

Wish you all a healthy life,

Thank you,

Sanjib Acharya

For more details, visit: www.sserumanalysiscentre.com | Follow us at



FREE distribution for Doctors and Medical Personnels



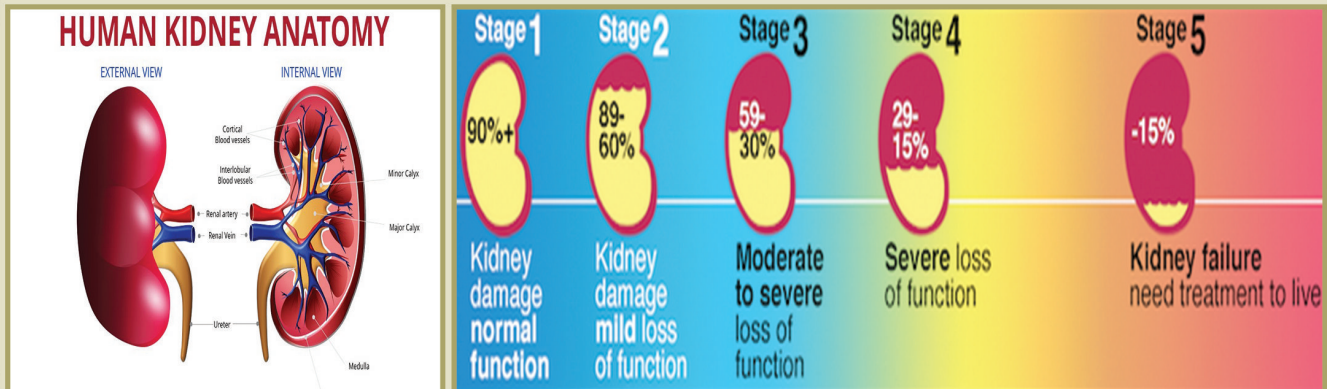
Importance of Glomerular Filtration Rate (GFR) test

Glomeruli are the small filters inside kidneys. These filters help to remove waste and excess fluid from the blood. If one's kidneys are not working properly their glomeruli will not filter as efficiently as needed. A GFR test is used to help diagnose kidney diseases at an early stage, when it is most treatable. GFR is also used to monitor people with CKD or other conditions that cause kidney damage. These include diabetes and high blood pressure. At the early state disease does not usually cause any symptoms. Actually, this can be tested by a simple blood test.

GFR test can be suggested if one has the following symptoms: Urinating more or less often than usual, itching, fatigue, swelling one's arms, muscles cramps, nausea and vomiting and loss of appetite.

Test of GFR

One needs to have some preparation for testing GFR. Before giving blood, one has to maintain fasting for several hours. There is a very little risk in having blood test. The test result normal means one does not have kidney disease. Below normal, indicates possibility of kidney disease and in case of far below normal one may have kidney failure. One has to keep in mind that damage to kidney is usually permanent but one can take steps to prevent further damage by controlling blood pressure and blood sugar. At the same time change to lifestyle by doing more exercise, maintaining body weight, limiting alcohol and quitting smoking are also steps to prevent further damage.



Calculation of GFR

An estimate of normal value of one GFR can be obtained by using the equation: $GFR = 140 - \text{his/her age}$. For example, GFR of a fit person of age 30 years should be approximately 110mls/min. One may be interested in knowing creatinine levels to know about kidney condition. But compared to blood creatinine levels, the GFR provides a much more accurate picture of kidney function taking into consideration factors like one's age, gender and lean weight. For a fit person, normal GFR: 100-140mls/min, mild kidney failure: less than 90mls/min, moderate kidney failure: less than 60mls/min, severe kidney failure: less than 30mls/min. GFR decreases naturally as a person ageing. For example, a healthy 60-70 year-old will have a GFR of 60-70mls/min (half their young adult normal).

World Health Organisation (WHO) released 10 global health issue for 2021

The weakness and inadequacies of the global health system have been exposed in the pandemic period. The pandemic has claimed over 17 lakh lives worldwide. WHO has suggested 10 ways to strengthen and have preparedness to face pandemic situation or any deadly mass health related problem in 2021. These are as follow:

1. Build global solidarity for worldwide health security: countries need to work together to improve preparedness for health emergencies targeting the most vulnerable communities.
2. Speed up access to COVID 19 tests, medicines and vaccines. WHO aims to achieve equitable access to vaccines and treatments.
3. Advance health for all to respond to emergencies such as COVID 19.
4. Tackling health inequalities related to income, gender, ethnicity, education, occupation and disabilities.
5. Provide global leadership on science and data. For this every country will try to strengthen the capacity of its health data or information system to report on progress towards its health-related goal.
6. Revitalize to tackle communicable diseases. In 2021 WHO will help countries get vaccines for polio and other diseases to those who missed out during the pandemic.



7. Combat drug resistance. WHO will monitor and continue to support national action plans.
8. Prevent and treat non communicable diseases and mental health conditions. According to WHO the NCDs were responsible for 7 of the top 10 causes of death in 2019 and 2020.
9. Build back better: it means COVID 19 has given us an opportunity to build back a better, greener, healthier world in 2021.
10. Act in solidarity. Nations, institutions, communities, and individuals should “closed the cracks” in defences, said WHO.

All the suggestions raised by WHO is very important. But the developing world like India is far behind in the health situation compared to that of developed countries. How far it can try to achieve the suggestions will remain to be seen.

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

CASE PROFILE: 11 year old girl, resident of Bihar, presented with a firm swelling on left arm.

DIAGNOSIS: ALVEOLAR RHABDOMYOSARCOMA.

INCIDENCE: It is a rare tumour, with incidence of 1 case / 1 million children & adolescents.

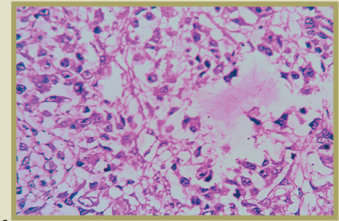
MICROSCOPY: The tumour showed an alveolar growth pattern with tumour cells loose and detached at the centre. Large areas of necrosis seen. Many PAS positive bodies & giant cells seen. Cells show vesicular nuclei with prominent nucleoli.

DIFFERENTIAL DIAGNOSIS: With Alveolar Soft Part Sarcoma and clear Cell Sarcoma.

IMMUNOHISTOCHEMISTRY: Confirms the diagnosis with positivity for myogenic, desmin, sarcomeric actin, myosin, tropomyosin, vimentin etc.

MOLECULAR GENETICS: Consistent associations are with t 2: 13 which results in gene fusion PAX 3-FOXO1A & PAX7- FOXO1A. These can be detected by FISH technique.

PROGNOSIS: Prognosis is distinctly worse than for embryonal variety and even with therapy, 92% of patients die within 4 years of diagnosis.



The Journey of SERUM throughout January, 2021



January 26: Celebration of 72nd Republic Day at Serum Auditorium & Mobile campaign on Patriotism thereafter



January 25: Food Distribution programme in association with East Bengal club for the people living at Hazar Basti, Bagbazar



Jan 24: Thalassemia Awareness Programme in association with Cholachal Club



Jan 23: Celebration of 125th birth anniversary of Netaji Subhas Chandra Bose at Serum Auditorium



Jan 22: S SERUM Staff took COVID19 1st vaccine



An initiative of **S SERUM Analysis Centre (P) Ltd.**

This is a Medical Bulletin. Edited, compiled & published by Editorial Board for and on behalf of S SERUM Analysis Centre (P) Ltd., 82/4B, Bidhan Sarani, Kolkata 700004. Chief Editor: Sanjib Acharya.

Website: sserumanalysiscentre.com

e-Mail: serum.kol@gmail.com

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

Information & Local Booking Centre,

SERUM Group