

SERUM TIMES

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SERUM MEDICAL BULLETIN

From the desk of the Editor-in-Chief

Dear Readers/Doctors,

Hope you all are well. We are going to the end of the festival season. With the completion of the Saraswati Puja, the festival season comes to an end. This festival is observed with great devotion and enthusiasm around Bengal and in many other states as Vasanth Panchami. It is a festival of knowledge, music, flowing water abundance and wealth, art, speech, wisdom, and learning, Goddess Saraswati actually is worshipped around the country at different times.



Be careful about chicken pox

This is the time when chicken pox is seen. It is a very contagious infection caused by the virus. The virus is known as varicella-zoster virus. After infection, an itchy and blister-like rash appears, at first, on the face and later spreads throughout the body. Although it can be cured in one or two weeks, it can be complicated in some cases. Almost everyone is at risk of infection unless one is vaccinated or has high immunity. So please avoid crowded, if possible, use a mask, wash your hands properly before eating, and avoid coughing and sneezing at other people near you.

Do not be afraid of the revival of Covid

There has been a fear of coronavirus revival. But do not be panicky. The fatality number is quite low and the strength of the virus is not very high. West Bengal's Chief Minister has asked the people of the state to be cautious and not to be panicked. The government has already taken steps and has been keeping an eye on the situation. We also request you not to be anxious about this but please maintain some restrictions of cleanliness.

In this issue, we are going to discuss some important issues. The story one discusses achlorhydria. It is a disease in which the stomach in the human body does not either produce hydrochloric acid at all or produce less than is required. It is known that this acid is essential for the digestion of food. It may be life-threatening if not properly treated in time. This problem grows with age and both women and men are affected by this. Please go through it as it may affect anyone and so be aware of this.

Story two is very interesting because after 100 years scientists have come to know why the colour of urine is yellow. Earlier we did not exactly know this simple thing. The new discovery has also paved the way for the treatment of jaundice in a better way.

With best wishes

Sanjib Acharya

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Achlorhydria - can be a life-threatening disease

Achlorhydria is a condition in which a stomach does not produce or produce less hydrochloric acid. It is known that this acid has been one of the components of gastric acids. Hydrochloric acid plays an integral role in the digestion of food and protects the body from pathogens ingested with food or water. Without it body cannot properly break down food and activate digestive enzymes that dissolve proteins and other nutrients. This acid also helps kill bacteria, viruses, and parasites in the stomach and protects humans from infection and diseases.

What happens if one suffers from achlorhydria?

If it is left untreated it may cause life-threatening consequences. This may raise the risk of developing iron deficiency syndrome. Vitamins and minerals in the body also rely on adequate stomach acid for their absorption into the digestive tract

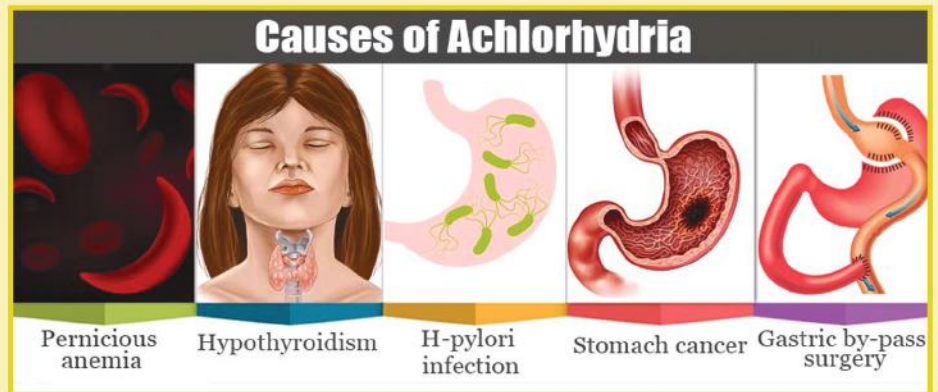
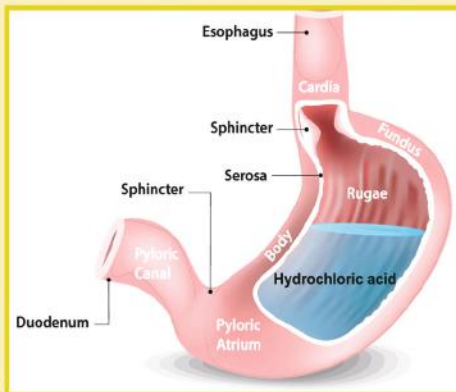
Symptoms of achlorhydria

After diagnosis, doctors examine for anaemia. Some of the common symptoms include abdominal bloating, indigestion, nausea, and acid reflux. There are some digestive issues. Diarrhoea, weak and brittle nails, hair loss, and undigested food in stools are also observed as symptoms of this disease.

Diagnosis

A common gastric pH and endoscopy should be done when one is suspected of achlorhydria. Also, a complete 24-hour profile of gastric acid secretion is best obtained during an oesophageal pH monitoring study. Medical textbooks also prescribe measurements of extremely low levels of pepsinogen A (PgA) (<17 miug/L) in blood serum. The diagnosis may be supported by high serum gastrin levels (> 500- 1000pg/ml).

Who is at higher risk of achlorhydria?



It is known that achlorhydria is present in about 2.5% of the population below 60 years. The chance of this factor increases with age. In almost 5% of the people above 60 years, achlorhydria is present. The incidence increases to around 12% in populations over 80 years. This means the absence of hydrochloric acid increases with advancing age which causes harmful digestive problems.

Who are the worst sufferers among men and women?

Some studies observe that among men and women 27% experience varying degrees of achlorhydria. USA research found that over 30% of women and men over the age of 60 have little to no acid secretion in the stomach. The study also observed that about 40% of post-menopausal women had been shown to have no basal gastric acid secretion in the stomach. More specifically, 39.8% of women between 80 to 89 years old suffer from this.

Why is urine colour yellow? Scientists find the truth recently

The fact so far

About 100 years have passed to know the real reason why the colour of pee is yellow. Over a century it has been known that the human body turns bilirubin in blood into molecules in urine called urobilin. The urobilin impacts a yellow colour. The lacuna in this knowledge was been the scientists did not know which enzyme or collection of enzymes in the gut was responsible for this transformation. So lately that has been identified by researchers of the Department of Cell Biology and Molecular Genetics at the University of Maryland in the USA,

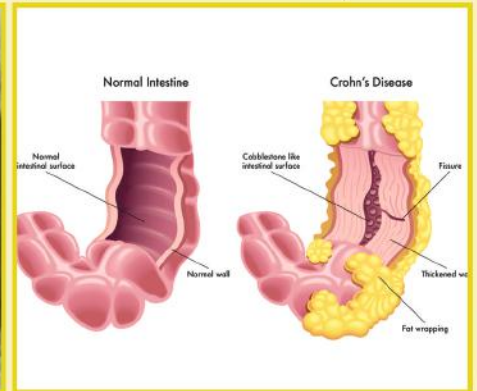
The lead author of the research in Nature Microbiology journal on 3 January, Dr. Brantley Hall reportedly said, the main reason why urine is yellow, has been the presence of the enzyme, bilirubin reductase. Hall also said that this was actually an accidental finding. The researchers were interested in understanding the functions of gut microbes and what way they relate to human health. Gut microbes are trillions of microorganisms that populate our digestive tracts. These may also be related to jaundice in babies.

The science behind urine becoming yellow

Everyday Health, an online magazine, has reported on this research. It has quoted Dr. Hall as saying that his team had discovered gut microbes that had encoded (made) bilirubin reductase which then converted into a colourless byproduct called urobilinogen. Urobilinogen then spontaneously degraded (broke down) into urobilin which was responsible for the yellow colour.

The findings of the study have a far-reaching importance

The researchers hope that this finding could have important health implications. The discovery of the



presence of the bilirubin reductase is not anything new as it is present in almost all healthy adults. The research team finds that it is often missing from newborns. This is the crucial matter. What does it imply for those babies? If it is missing from newborns it may contribute to infant jaundice and the formation of pigmented gallstones, Hall reportedly said that if that hypothesis was confirmed, one approach to treating infant jaundice might be to add back the bacteria through a pro-biotic strategy.

At the same time, the enzyme is often lacking or missing in people with inflammatory bowel diseases such as Crohn's disease or ulcerative colitis, according to researchers. They also observed that the absence of bilirubin microbes might also contribute to the formation of gallstones which had been observed in some people with inflammatory bowel disease.

CSR Activities & Events of SERUM throughout January 2024



Jan 21: All Bengal Sit & Draw and Recitation Competition, 2024

Free Doctors Checkup & Free Diagnostics



Jan 11: Dr. Shekhar Ghosh ---- Jan 25: Dr. Prabhat Bhattacharya

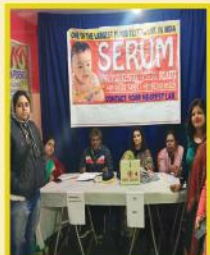
Jan 19: SERUM Group in association with Indian Oil Corporation has conducted a Health Checkup Camp at Indian Oil Corporation hub - Mourigram



Jan 26: Republic Day celebration

Jan 23: Netaji Subhas Chandra Bose Jayanti

Jan 13: Participated in the Push Utsab 2024



Jan 6: State Level Scouters Guiders Conference held at Douglas Memorial H S School, Barrackpore

Jan 23: Participated in the Science Fair at Hedua Park organised by Udayer Pathe



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