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Gain-of-function Research

- The Wuhan Institute of Virology was said to have conducted gain-of-function research on coronaviruses. This gain-of-function research is linked to the theory of “Lab-leak origin” for the SARS-CoV-2.
- In virology, gain-of-function research involves **deliberately altering** an organism in the lab, altering a gene, or **introducing** a mutation in a pathogen to study its transmissibility, virulence and immunogenicity.
- It involves manipulations that make certain pathogenic microbes more deadly or more transmissible.
- This is done by genetically engineering the virus and by allowing them to grow in different growth mediums, a technique called **serial passage**.
- This allows researchers to study potential therapies, vaccine possibilities and ways to control the disease better in future.
- Some forms of these researches carry inherent biosafety and biosecurity risks and so referred to as ‘dual-use research of concern’ (DURC).

Loss-of-function Research

- It involves inactivating mutations, resulting in a significant loss of original function, or no function to the pathogen.
- When mutations occur, they alter the structure of the virus that is being studied, resulting in altered functions. Some of these mutations might weaken the virus or enhance its function.

Antibodies against Nipah in Bats

- A cross-sectional survey by Indian Council of Medical Research-National Institute of Virology has found the presence of antibodies in bats from Mahabaleshwar cave (Maharashtra) against the Nipah virus.
- *Pteropus medius*, which are large fruit-eating bats, are the incriminated reservoir for Nipah virus (NiV) in India as both NiV RNA and antibodies were detected in these bats collected during previous NiV outbreaks.
- The two bat species (from Mahabaleshwar cave) that were studied are,

1. *Rousettus leschenaultii* - Medium-sized fruit eating bats and
 2. *Pipistrellus pipistrellus* - Tiny insectivorous bats.
- These bats had both the NiV RNA and anti-NiV IgG antibodies.
 - Exposure of *R. leschenaultii* bats to NiV warrants further investigation as roosting and breeding habitats of *Rousettus* and *Pteropus* vary greatly.
 - A new introduction might have occurred from *P. medius* to *Rousettus* bats through NiV-contaminated fruits, as both share the same fruit trees.
 - NiV detection in *P. pipistrellus* bats and their role in virus spill-over to humans appear remote.
 - Recurring outbreaks, high fatality rate, human-to-human transmission and lack of effective vaccine/antiviral pose a major concern in India as the bat roosts are very common in areas where many humans reside.

Nipah Virus

- NiV is on the top-10 priority list pathogens identified by the World Health Organization.
- A study in 2018 has identified many South East Asian countries including Indian states as potential hotspots for the NiV disease.
- Till date, India has experienced four episodes of NiV outbreaks with CFR ranging from 65% to 100%. The evidence of NiV infection are reported in,
 1. Siliguri district, West Bengal (2001),
 2. Nadia district in West Bengal (2007),
 3. Kozhikode district of Kerala (2018), followed by another outbreak in the same state in 2019.
- To know more about Nipah Virus, [click here](#).

Delta Variant of Coronavirus

- The supercontagious Delta variant of the coronavirus is responsible for about 1 in 5 COVID-19 cases in the US.
- So while Delta may account for an increasing percentage of cases, it is not yet clear whether it will drive the total number of cases higher.
- Delta is one of the “Variants of Concern,” as designated by the Centers for Disease Control and Prevention and the World Health Organization.
- First identified in India, Delta has been reported in 80 countries. It is now the most common variant in India and Britain.
- Delta variant, formerly known as B.1.617.2, is believed to be the most transmissible variant yet, spreading more easily than both the original strain of the virus and the Alpha variant first identified in Britain.
- People infected by the Delta variant were roughly twice more likely to be hospitalized than those infected with Alpha.
- **Impact on Vaccine** - The variant may partially evade the antibodies made

by the body after a coronavirus infection or vaccination.

- It may render certain monoclonal antibody treatments less effective.
- **Impact of Vaccine** - The Delta variant is unlikely to pose much risk to people who have been fully vaccinated.
- However, the protection offered by a single dose appears low, and if a person is not at all vaccinated, they are at high risk.

Peter Pan Syndrome

- During a hearing in a special court in Mumbai, the accused had told the court he suffered from “Peter Pan Syndrome”.
- The term ‘Peter Pan Syndrome’ first appeared in 1983, in Dr Dan Kiley’s book. He described it as a “social-psychological phenomenon”.
- While the World Health Organization doesn’t recognise Peter Pan Syndrome as a health disorder, many experts believe it is a mental health condition that can affect one’s quality of life.
- Peter Pan Syndrome is not currently considered a psychopathology.
- **Symptoms** - It is said that people who develop behaviours of living life carefree, finding responsibilities challenging in adulthood and basically, “never growing up” suffer from Peter Pan Syndrome.
- It could affect one’s daily routine, relationships, work ethic, and result in attitudinal changes.
- The affected people have body of an adult but the mind of a child.
- The syndrome can affect anyone, irrespective of gender, race or culture. However, it appears to be more common among men.

Wendy Syndrome

- Wendy Syndrome takes after Wendy Darling, who appears beside Peter Pan but is seen as playing an antithetical character.
- She is often called a “mother”, taking on the role of an adult or someone more mature.
- People suffering from Wendy Syndrome as often seen making decisions, tidying up messes, and offering one-sided emotional support”.

Freshwater Black Softshell Turtle

- Hayagriva Madhava Temple Committee (Assam) signed a MoU with two NGOs, Assam State Zoo cum Botanical Garden and the Kamrup district administration for conserving the rare freshwater black softshell turtle.
- Also, a Vision Document 2030 was launched to raise at least 1000 black softshell turtle (*Nilssonina nigricans*) by 2030.
- These turtles are found along the Brahmaputra River’s drainage in Assam,

and in ponds of temples in north-eastern India and Bangladesh.

- **Conservation** - The International Union for Conservation of Nature had in 2021 listed the turtle as 'critically endangered'.
- But it does not enjoy legal protection under the Indian Wildlife (Protection) Act, 1972.
- **Threats** - It has traditionally been hunted for its meat and cartilage, traded in regional and international markets.
- Since the turtles are conserved in these ponds only based on religious grounds, many biological requirements for building a sustainable wild population have since long been overlooked.

Recusal of Judges

- Recently, two Supreme Court judges have recused themselves from hearing cases relating to West Bengal.
- **Reasons for recusal** - When there is a conflict of interest, a judge can withdraw from hearing a case to prevent creating a perception that s/he carried a bias while deciding the case.
- The practice stems from the cardinal principle of due process of law that nobody can be a judge in his/her own case.
- Another instance for recusal is when an appeal is filed in the Supreme Court against a judgement of a High Court that may have been delivered by the SC judge when she was in the HC.
- **Process for recusal** -The decision to recuse generally comes from the judge herself as it rests on the conscience and discretion of the judge to disclose any potential conflict of interest.
- In some circumstances, lawyers or parties in the case bring it up before the judge. If a judge recuses, the case is listed before the Chief Justice for allotment to a fresh Bench.
- **Rules** - There are no formal rules governing recusals, although several Supreme Court judgments have dealt with the issue.
- In *Ranjit Thakur v Union of India* (1987), the Supreme Court held that the tests of the likelihood of bias are the reasonableness of the apprehension in the mind of the party.
- The 1999 charter 'Restatement of Values in Judicial Life' is a code of ethics adopted by the Supreme Court.
- It states, "A Judge shall not hear and decide a matter in a company in which he holds shares, unless he has disclosed his interest and no objection to his hearing and deciding the matter is raised."
- **Decision** - Once a request is made for recusal, the decision to recuse or not rests with the judge.
- The judges can recuse even if they do not see a conflict but only because

such an apprehension was cast. They can refuse to withdraw from a case.

- **Record** - Since there are no formal rules governing the process, it is often left to individual judges to record reasons for recusal.
- Some judges disclose the reasons in open court; in some cases, the reasons are apparent.

Source: PIB, The Indian Express



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