Primary Amoebic Meningoencephalitis (PAM)

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Why in News?

Recently, three cases of primary amoebic meningoencephalitis (PAM) have been reported in Kerala, leading to the death of a 9-year-old and infecting a 3-month-old baby.

- PAM is a ***rare brain infection*** caused by *Naegleria fowleri*.
- **Naegleria fowleri –** It is a *free-living amoeba* or a single-celled living organism.
- It is also called 'brain-eating amoeba'.
- It lives in warm, fresh water and soil around the world, and infects people when it enters the body through the nose.
- Higher temperatures of **up to 115°F (46°C)** are conducive to its growth, and it can survive for short periods in warm environments.
- It can also be found in swimming pools, splash pads, surf parks, or other recreational venues that are poorly maintained or minimally chlorinated.
- **Spread -** Enters the body through the nose, usually when people are swimming.
- It then travels up to the brain, where it *destroys the brain tissue and causes swelling.*
- PAM is also non-communicable.
- **Symptoms – In Initial stage** - Headache, fever, nausea and vomiting.
- **In Later stage** - The patient may have a stiff neck and experience confusion, seizures, hallucinations and slip into a state of coma.

  According to the US Centers for Disease Control and Prevention (CDC), Most people with PAM die within 1 to 18 days after symptoms begin. It usually leads to coma and death after 5 days.

- **Treatment –** *No treatment* available for this disease at present.
- At present, doctors treat it with a combination of drugs, including

amphotericin B, azithromycin, fluconazole, rifampin, miltefosine, and dexamethasone.

- **Past incidents of infection -** The 1st case of PAM in India was reported in 1971 and the first case in Kerala was reported in 2016.
- Last year, Kerala had *36 cases and 9 deaths.*
- **Reason of high incidence in Kerala -** One of the reasons for the spike in cases in Kerala has been increased testing for acute encephalitis syndrome (AES).
- Acute Encephalitis Syndrome (AES) is a condition that can be caused by various diseases, including PAM as well as other factors such as climate change and environmental pollution.
- In the new cases, another possibility could be that the PAM was caused by a different category of amoeba, which is found in dust and soil, according to health department officials.

Reference

The Indian Express | primary amoebic meningoencephalitis (PAM)

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