

# Eluru mystery illness

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In news

The scientists suggest that Organochlorines may be behind Eluru mystery illness

## Key findings

- Experts investigating the outbreak have found the presence of organochlorine and organophosphorus in the blood and serum samples of those affected by this mystery disease.
- Experts said that these chemicals present in insecticides and pesticides affect human health
- Scientists suspect that pesticide or insecticide has seeped into drinking water sources.
- AIIMS and Indian Institute of Chemical Technology found lead and nickel in blood samples of the victims, but they didn't find anything in the water.
- The Institute of Preventive Medicine, in its analysis, found no heavy metal in milk.
- National Institute of Nutrition found traces of mercury in rice and pesticides and herbicide residues in excess quantities in vegetables

## Symptoms of Eluru mystery illness

Most of them who are affected by this mystery illness are suffering from seizures, nausea, dizziness and headaches

## What are organochlorines?

- Organochlorines (OC) are a **group of chlorinated compounds** that belong to the class of persistent organic pollutants (POPs) with high persistence in the environment.
- OCs are widely **used as pesticides.**

- OC insecticides were earlier used to control malaria and typhus; they were later banned in most countries.
- OC can cause several adverse effects. These substances are capable of causing adverse effects in the central and peripheral nervous system.
- They are relatively cheaper; as a result Dichlorodiphenyltrichloroethane (DDT), hexachlorocyclohexane (HCH), aldrin and dieldrin are among the most widely used pesticides in developing countries of Asia.
- A finding says that 40 per cent of all pesticides used belong to the organochlorine class of chemicals.
- Organochlorine and organophosphorous poisoning can occur from indiscriminate use of pesticides and insecticides.

#### How do these organochlorine pesticides reach people?

- People can be exposed to organochlorines through accidental inhalation if they are in an area where such pesticides were used or sprayed.
- Organochlorines can also be ingested through fish, dairy products and other fatty foods, which can get contaminated.
- These pesticides accumulate in the environment. They are persistent and move long distances in surface runoff or groundwater.
- OCs, in the mid-1970s in India, resulted in widespread reproductive failure among birds; they laid eggs with thin shells that cracked before hatching.

#### Impact of organochlorine pesticides on Human Health

- Exposure to organochlorine pesticides over a short period may **result in convulsions, headache, dizziness, nausea, vomiting, tremors, confusion, muscle weakness**, slurred speech, salivation and sweating.
- Long-term exposure to organochlorine pesticides may damage the liver, kidney, central nervous system,

thyroid and bladder.

- There is also evidence indicating that organochlorine pesticides may cause cancer in humans.

## 27 Pesticides Banned for manufacture, import and use in India

1. Aldrin
2. Benzene Hexachloride
3. Calcium Cyanide
4. Chlordane
5. Copper Acetoarsenite
6. Dibromochloropropane
7. Endrin
8. Ethyl Mercury Chloride
9. Ethyl Parathion
10. Heptachlor
11. Menazone
12. Nitrofen
13. Paraquat Dimethyl Sulphate
14. Pentachloro Nitrobenzene
15. Pentachlorophenol
16. Phenyl Mercury Acetate
17. Sodium Methane Arsonate
18. Tetradifon
19. Toxafen
20. Aldicarb
21. Chlorobenzilate
22. Dieldrine
23. Maleic Hydrazide
24. Ethylene Dibromide
25. TCA (Trichloro acetic acid)
26. Metoxuron
27. Chlorofenvinphos