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Government Initiates Probe into Type-2 Polio Virus Contamination

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The Ministry of Health and Family Welfare has ordered an inquiry into the type-2 polio virus contamination detected in the vials used for immunisation in Uttar Pradesh, Maharashtra and Telangana.

- The World Health Organization (WHO) found the virus in some sewage and stool samples during their routine surveillance and ensured that the cases have not developed into Poliomyelitis (Polio). Nevertheless, the government has ordered additional immunisation in these three States.
- This detection indicated the use of a type 2 poliovirus containing vaccine, despite the fact that trivalent vaccine (tOPV) that contained type 2 poliovirus vaccine had been phased out globally, and in India, in April 2016, as a part of the Polio End Game strategy.
- The traces found are attenuated (weakened) poliovirus and does not cause paralysis. The recipients of such vaccine usually shed the vaccine virus through fecal route for about 4-6 weeks after which it will die down.

Background

- The last case due to type-2 wild poliovirus globally was reported from Aligarh in India in 1999.
- India was declared polio free in 2014 and the last case was reported in January 2011.
- India switched to bivalent vaccine (bOPV) from trivalent vaccine (tOPV) following certification of global eradication of type 2 wild polio virus. Removing type 2 component from polio vaccine was done with the aim of minimizing the risk of vaccine-derived poliovirus type 2 outbreak.

- Oral Polio Vaccines (OPV) contains weakened but live polio virus which can cause paralytic polio. Also, the vaccine virus is excreted by immunized children which can move from one person to another. This allows the virus to stick around and mutate to a more virulent form, raising the threat of vaccine-derived poliovirus (VDPV). VDPV, like imported wild polio, can cause outbreaks in under-immunized population.
- Therefore replacing OPV with the Inactivated Polio Vaccine (IPV) is a prerequisite for Polio eradication. Even the Polio Eradication and Endgame Strategic Plan of WHO calls for the phased removal of oral polio vaccines (OPV) by 2019.

Why not use IPV at first instance itself?

- IPV induces very low levels of immunity in the intestine. As a result, when a person immunized with IPV is infected with wild poliovirus, the virus can still multiply inside the intestines and be shed in the faeces, risking continued circulation.
- IPV is over five times more expensive than OPV.
- Administering IPV requires trained health workers, as well as sterile injection equipment and procedures.

Recently India had also launched Pulse Polio programme for 2018 to administer Oral Polio Vaccine (OPV) to more than 17 crores children who are less than 5 years of age on National Immunisation Day, which is observed on January 28.

Polio

- The virus is transmitted by person-to person spread mainly through the faecal-oral route or, less frequently, by a common vehicle (e.g. contaminated water or food) and multiplies in the intestine, from where it can invade the nervous system and can cause paralysis.
- Initial symptoms of polio include fever, fatigue, headache, vomiting, stiffness in the neck, and pain in the limbs. In a small proportion of cases, the disease causes paralysis, which is often permanent. There is no cure for polio, it can only be prevented by immunization.
- Of the 3 strains of wild poliovirus (type 1, type 2, and type 3), wild poliovirus type 2 was eradicated in 1999 and no case of wild poliovirus type 3 has been found since the last reported case in Nigeria in November 2012.