Organophosphate poisoning

- Organophosphorus (OP) insecticides are used widely throughout the world and are a common cause of poisoning, leading to thousands of deaths annually in the developing world.

- Intoxication may follow ingestion, inhalation or dermal absorption. OP insecticides inhibit acetylcholinesterase, causing accumulation of acetylcholine at central and peripheral cholinergic nerve endings, including neuromuscular junctions.

- Many OP insecticides require biotransformation before becoming active and so the features of intoxication may be delayed.

Clinical features

- anxiety and restlessness
- Nausea, vomiting
- abdominal colic
- diarrhoea (particularly if exposure is by ingestion), tenesmus,sweating, hypersalivation and chest tightness.

Clinical features

- Respiratory failure will ensue in severe cases and is exacerbated by the development of bronchorrhoea and pulmonary oedema.
- Miosis is characteristic.
- Muscle fasciculation and flaccid paresis of limb muscles, and, occasionally, paralysis of extraocular muscles is observed.
- Coma and convulsions occur in severe poisoning.

Management

- Mild cases require no specific treatment other than the removal of oiled clothing. Intravenous atropine 2 mg should be given every 3–5 minutes if necessary, to reduce increased secretions, rhinorrhoea and bronchorrhoea.

- Symptomatic patients should also be given an oxime (pralidoxime, obidoxime) to reactivate inhibited acetylcholinesterase; for example, pralidoxime chloride 30 mg/kg by slow intravenous injection, followed by an infusion of pralidoxime chloride 8–10 mg/kg per hour.

Management

- There is no specific treatment for the intermediate syndrome apart from supportive care, including prolonged ventilation.

- Most patients recover in 2–3 weeks.