Botulism is the neuroparalytic disorder resulting from intoxication with the exotoxins produced by Clostridium botulinum & several other strains of clostridia. C. botulinum are spore-forming obligate anaerobes whose heat resistant spores are widely distributed in soil & marine sediment throughout the world.

**General:**
- Ingestion of contaminated food with absorption of toxin from the duodenum jejunum causes food borne botulism.
- The most commonly implicated foods include home-canned fruit & vegetables due to failure to use a proper combination of heat pressure & time to kill spores.

**Food-Borne Botulism Manifestations:**
- Generally develop within 12-36 hours of ingestion of contaminated food with the acuity & severity of illness related to the amount of toxin absorbed.
- In general, a symmetrical descending paralysis with multiple cranial neuropathies evolves rapidly in the absence of fever or altered sensorium.
- In food borne botulism, the initial symptoms are often gastrointestinal & include nausea, vomiting, diarrhoea & abdominal cramping which may be due to ingestion of other bacterial metabolites along with botulinum toxin.
- Parasympathetic dysfunction may present early with dry mouth & blurred vision associated with dilated poorly reactive pupils.
- Diplopia often develops secondary to extraocular muscle weakness with paretic dysconjugate eye movements. With paralysis of bulbar muscles, patients may exhibit flaccid dysarthria, chewing difficulty & dysphagia.
- The upper extremities, trunk & lower extremities may become paretic in a descending fashion.
- Autonomic dysfunction may manifest as gastrointestinal dysmotility, orthostatic hypotension, altered resting pulse, urinary retention or hypothermia.
- Respiratory compromise may occur due to a combination of upper airway compromise from weak oropharyngeal muscles & diaphragmatic weakness.
- Clinical manifestations vary with the various types of botulinum toxin.

**Prognosis:**
- Although course is variable, most hospitalized infants reach maximal paralysis at approximately 1-2 weeks after hospitalisation and begin to improve after 1-3 weeks.
- The case mortality is less than 1% in hospitalised patients.

**Infant Intestinal Botulism:**
- Results from the ingestion of c. botulinum spores that germinate, colonise the large intestine & produce botulinum toxin in vivo.
- Ingestion of ambient C. botulinum spores, distributed widely in soils and dust is thought to represent the primary route of exposure; honey is also a significant risk for infant botulism.
- Peak susceptibility is seen at between 2 and 4 months of age.
- A clinical spectrum exists with some infants exhibiting relatively mild & self limited disease involving several days of constipation, poor feeding, & lethargy and other infants developing acute tetraparesis & respiratory failure.
- In classic cases, constipation is often the initial symptom followed by lethargy, poor feeding, and weak cry.
- Examination reveals hypotonia with head lag, ptosis, reduced facial expression, and reduced gag, suck & swallow reflexes. Deep tendon reflexes are reduced or absent. Extraocular movements are often paretic & pupils may be large & poorly reactive.

**Prognosis:**
- Children and adults may be susceptible to intestinal colonisation & in vivo production by C. botulinum, C. baratii or C butyricum when the gastric barrier is compromised & intestinal flora are altered.
- Occurs in the setting of intestinal surgery, gastric achlorhydria, broad spectrum antibiotic treatment, and inflammatory bowel disease.

**Iatrogenic Botulism:**
- Therapeutic use of botulism for dystonia, spasticity and other conditions occasionally results in inadvertent paralysis of nearly muscles & has been reported to cause paresis of distant muscles in rare reports.

**Wound Botulism:**
- Wound botulism results from in vivo toxin production in abscessed *devitalised wounds*.
- Wound botulism has been reported after iv drug use and repeated heroine inhalation.
- In contrast to the rapid onset of botulism in food-borne disease with ingestion of pre-formed toxin, the incubation period for wound botulism is 7 days (range 4-14 days).
- The neurological signs and symptoms are virtually identical to food-borne botulism except for the absence of prodromal gastrointestinal symptoms.

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