

Food Poisoning

Types

I- Indigenous food poisoning

e.g. Poisonous mushrooms (Amanita phalloides, Amanita muscaria), some species of fishes e.g. Ciguatera

II- Chemical food poisoning

e.g. Contamination of food with chemicals (arsenic , antimony, insecticides, mercury, lead, radioactive materials)

III- Bacterial food poisoning

- Infective type : Ingestion of the organism e.g. Shigella, Salmonella
- Toxic type : Ingestion of previously formed toxin in food e.g. Staphylococci, Clostridium botulinum (botulinus toxin)

Organism	Staphylococci	Clostridium Botulinum	Salmonella
Cause	Staph Aureus Exotoxin (thermolabile)	Anaer. Cl. Botulinum Neurotropic exotoxin (thermolabile)	Salmonella organism
Incubation period	1-6 hours	12 hours	12-24 hours
Clinical picture	Gastroenteritis without fever shock	Paralytic manifestations, dysphagia, dilated pupils, paralysis of Resp . muscles	Gastroenteritis with fever shock
treatment	Stomach wash I.V. Fluids Intestinal antiseptic	I.V. Injection of the specific antitoxin	I.V. Fluids Antibiotics

Clostridium botulinum

- Botulism is the most serious bacterial food poisoning
- Ingestion of food containing clostridium botulinum toxin
- Botulinum toxin are the most powerful known toxin (A,B,C,E,F,G)
- **Types**
 - 1- Food born (classical form) : ingestion of contaminated food with Botulinum toxin
 - 2- Infant botulism: ingestion of contaminated food with spores that germinate in intestine
 - 3- wound botulism: Colonization of organism in wounds then absorbed systematically

■ Clinical Picture

- Onset 12-48 hours and may be delayed 8 days , group poisoning
- Early :nausea, vomiting , constipation, abdominal distension and pain.
- Muscle weakness that goes down the body: double vision, blurred vision, drooping eye lid, dysarthria, dysphagia, dry mouth
- Generalized muscle weakness , paralysis of the neck and respiratory muscles.
- Other manifestations: sensory loss squint, fixed or dilated pupil, urinary retention, Fever (terminal event, poor prognosis).
- Infant : appear lethargic, poor feeding, constipated, weak cry, poor muscle tone

■ Treatment

- 1- Bacteria can be isolated from the stool or contaminated food in laboratory
 - 2- Good supportive care especially airways
 - 3- Gastric lavage or enema to remove contaminated food in the gut
 - 4- Botulinum antitoxin: trivalent(A,B,E), 1 vial (20 mg) I.V./ 4h till the patient becomes free ; immunoglobulins for infants
 - 5- Treatment of the wound, usually surgically to remove the source of the toxin-producing bacteria
- D.D.: atropine poisoning (Bacteriological & chemical analysis), Myasthenia gravis, Guillain Barre syndrome

■ Prevention:

- 1- Canned and preserved food must be properly processed and prepared**
- 2-Boiling food will destroy toxin (10 minutes)**
- 3- Bulging containers and food with unusual smell should not be consumed.**
- 4-Infant botulism ; feeding on honey**

- **Ciguatera (Mackerel and Barracuda fish)**
 - A food-borne illness caused by eating ciguatera fish whose flesh is contaminated with toxins (Ciguatoxin) originally produced by *Gambierdiscus toxicus* microalgae which lives in tropical and subtropical waters.
 - Clinically: Nausea, vomiting, neurologic symptoms such as tingling fingers or toes, feel cold things hot or hot things cold.
 - Symptoms subsides in days or weeks but can last years (Symptomatic treatment)