TUBERCULOSIS OF THE GASTROINTESTINAL TRACT

PATHOGENESIS

- *Mycobacterium tuberculosis*
- The usual route of infection is direct penetration of the intestinal mucosa by swallowed organisms.
- Pulmonary involvement is seen in less than 50% of patients with intestinal tuberculosis

CLASSIFICATION AND DISTRIBUTION OF DISEASE

- **Most common site : ileocaecal region**
- **Peritoneal tuberculosis occurs in three forms :**
- Wet type with ascites
- Dry type with adhesions
- Fibrotic type with omental thickening and loculated ascites

PATHOLOGY

- ***Ulcerative*** 60%
- ***Hypertrophic*** 10%
- ***Ulcerohypertrophic*** 30%

- Bowel wall appears thickened, and there typically is an inflammatory mass surrounding the ileocecal region.
- The serosal surface is covered with multiple tubercles.
- The mesenteric lymph nodes typically are enlarged and thickened

- The mucosa itself is hyperemic, cobblestoned, edematous, and, in some cases, ulcerated.
- **In contrast to Crohn's disease, the ulcers tend to be circumferential and perpendicular to the longitudinal axis of the bowel**.
- When these ulcers heal, the associated fibrosis causes stricture and stenosis of the lumen.

- Histologically, the distinguishing lesion is a caseating granuloma

Diagnosis

- **Ascitic fluid examination**
- **Straw coloured fluid**
- **High protein**

SAAG < 1.1 g/dl

Predominantly lymphocytic cells

ADA levels above 36 U/l

Diagnosis

- **Chest X-rays : concomitant pulmonary lesions in less than 25 %**
- **Small bowel barium meal, barium enema**
- **Ultrasonography, computed tomographic scan**
- **Colonoscopy**
- **Laparoscopy**

TREATMENT

- Standard antituberculosis treatment

Surgery

- Hypertrophic form
- Luminal compromise with complete obstruction
- Free perforation,
- Confined perforation with abscess formation
- Massive hemorrhage

Food Poisoning

FOOD POISONING

- An illness caused by the consumption of food
- Contaminated with bacteria, bacterial toxins, parasites (e.g., trichinosis), viruses (e.g., hepatitis), or chemicals (e.g., amanitin with ingestion of mushrooms)

- Bacteria constitutes 75% of the outbreaks

Features of Bacterial Food Poisoning

ORGANISM	COMMON VEHICLES	INCUBATION (Hrs)	PRIMARY TOXIN	MEDIAN DURATION (Days)	SECON DARY ATTACK RATE,%
Bacillus cereus	Fried rice	2 (1-16) 9 (6-14)	Heat stable Heat labile	0.4 (0.2-0.5) 1 (1-2)	0
***Escherichia coli* spp**	Salads, beef	24 (8-44)	Heat labile	3 (1-4)	0
		96 (24-120)	Heat stable		
			Verotoxin		
***Salmonella* spp**	Eggs, meat, poultry	24 (5-72)	Role of toxin unclear	3 (0.5-14)	30-50
***Shigella* spp.**	Milk, salads (potato, tuna, turkey)	24 (7-168)	Role of toxin unclear	3 (0.5-14)	40-60
Staphylococcus aureus	Ham, pork, canned beef, cream-filled pastry	3 (1-6)	Heat stable	1 (0.3-1.5)	0
Campylobacter jejuni	Milk, chicken, beef	48 (24-240)	Unknown	7 (2-30)	25
Clostridium perfringens	Beef, turkey, chicken	12 (8-22)	Heat labile	1 (0.3-3)	0

BOTULISM

- **Epidemiology :**
- Least common form of botulism
- Preformed toxin

- **Pathogenic Mechanisms :**
- Seven serologically distinct botulinum toxins
- Types A, B, and E are responsible for most human cases

- After absorption, botulinum toxin binds irreversibly to presynaptic cholinergic nerve endings of the cranial and peripheral nerves
- Inhibition of the release of acetylcholine
- Characteristic clinical syndrome

Clinical Features

- **Initially (usually within 18 to 36 hours) gastrointestinal symptoms**, including nausea, vomiting, abdominal pain, and diarrhea
- Once **neurologic symptoms** develop, constipation is common.
- Dry mouth, diplopia, and blurred vision are followed by dysarthria, dysphonia, dysphagia, and peripheral muscle weakness.
- The typical symmetrical descending paralysis
- Respiratory muscle paralysis can result in respiratory failure and death
- Higher cortical functions are unaffected

Diagnosis

- High index of suspicion
- If food-borne botulism is suspected, stool, serum, and implicated foods should be tested for botulinum neurotoxin

Treatment

- The trivalent equine botulinum antitoxin
- Speed is of the essence
- Single 10-mL dose of intravenous antitoxin