

LECTURE #1

Q: what are the causes of **watery diarrhea**?

1. V.cholerae
2. E.coli
3. Rotavirus (esp. in children < 2 years + in cool months) very important
4. Giardia Lamblia >> cause watery diarrhea that persists for more than 3 weeks
5. dehydration



- In dysentery there is pus + blood + mucus in stool
And they contain the organisms that cause infection

Cause of Enteric fever (typhoid fever) is >>> salmonella (group D)

- We find the organism in blood in the FIRST week
BUT in 2nd week we find organisms in stool

In developed countries the most common causes of **endemic** gastrointestinal infections?

1. Rotavirus
2. Calicivirus
3. Campylobacter
4. Salmonella
5. Shigella

The disease of wars and armies and crowds????? 7asoo jay!

>>>> shigellosis (caused by shigella dysentery)

The causes of water-borne epidemics in USA???? سؤال ميد

1. Cryptosporidium
2. Giardia
3. E.coli 0157

The most common cause **for traveler's diarrhea** is????

>>>> E.coli مهم

LECTURE #2+3

Intoxification : u ingest bacteria toxin

Infection : u ingest bacteria

Food Intoxification caused by :

1. Bacillus cereus (vomiting toxin) >>> found in rice and Chinese food
2. Clostridium botulinum (affect nerves) >>> found in canned food
3. Staph. Aureus

Infections:

1. C. prefringes
 2. Salmonella
 3. Shigella
 4. Vibrio parahaemolyticus
 5. Trachinella spiralis
 6. Hepatitis-A >>>> carried by shellfish
- In **food poisoning** the length of incubation period and symptoms is related to No.# of Organisms ingested
 - Food poisoning characterized by a short incubation period (eg *Staphylococcus aureus*) is more likely to be recognized because it can easily be associated with a specific meal and because the food itself may still be available for examination.

What are the Causes of hospital associated diarrhea ?

1. C. difficile (most common) سؤال ميد
 2. E. coli >>> in infants
 3. Rotavirus >> in infants
- The absence of fecal leukocyte doesn't exclude invasive diarrhea
 - C. difficile A and B detected by latex agglutination

LECTURE# 4

A number of unique bacteriologic features have been found in *H. pylori*. The most distinctive is a **urease** whose action allows the organism to persist in low pH environments by the generation of ammonia

Diagnosis of H.pylori Important

1. taking a biopsy and culture of gastric mucosa
2. microscopic examination
3. breath test : the patient ingests ¹³C- or ¹⁴C-labeled urea, from which the **urease** in the stomach produces products that appear as labeled CO₂ in the breath
4. detection of anti-body against H.pylori
5. IgG+ IgA remain elevated

Rotavirus disease is called >>>hakuri (white stool diarrhea)

- Virus antigen are found in the stool

LECTURE #5

Viruses known to cause hepatitis?

1. EBV
2. HSV
3. Yellow fever virus
4. CMV
5. Hepatitis viruses (A-E)

HAV	<ul style="list-style-type: none">- Transmitted by :fecal-oral route (shellfish)- No carrier/ No chronic state- No vertical transmission- IgM for diagnosis- IgG for memory- Incubation period : 10-50 day• Clinical manifestations:<ul style="list-style-type: none">- Jaundice/dark urine/white-caly coloured stool- ↑ALT +↑ bilirubin
-----	---

HBV	<ul style="list-style-type: none"> - The only DNA virus (detected by PCR) - Transmitted vertically(at birth) and by blood - The most sexually transmitted hepatitis - Formerly known as “serum hepatitis” - 10% of cases lead to cirrhosis and HCC - Incubation period : 7-160 day (10 weeks) - Needle stick injuries an important mode of transmission • Diagnosis: مهم <ul style="list-style-type: none"> If we find HBsAg alone>>>> Carrier If we find HBsAg+HBeAg>>> infected <p>Anti-HBs >>>(مناعة) الشخص مصاب ولا يصاب مرة اخرى</p> <p>Anti-HBc >>> detected early, persists 4 years</p> <p>IgM Anti-HBc>>>infection</p> <p>IgG Anti-HBc+ Anti-HBs>> past infection</p>
-----	--

HCV	<ul style="list-style-type: none"> - The most cause 4 blood transfusion hepatitis - Ag cant be detected - Ab detected by PCR
-----	---

HDV	<ul style="list-style-type: none"> - Require HBsAg (so it need HBV) - HBV+HDV >>>>↑ cirrhosis - IgM >>elevated until 3 weeks of infection - IgG>> for years
-----	---

HEV	<ul style="list-style-type: none"> - Fecal-oral route of transmission - Most common in pregnant
-----	---

HGV	<ul style="list-style-type: none"> - Blood borne - HCV + HGV >>>> مرض اخف من G /C
-----	---

- Vaccine available just for A / B

LECTURE # 6

Shistosomiasis (blood fluke) + hydatid disease

S.japonicum >>> superior mesenteric vein

S. mansoni+ S.hamatobium>>>inferior mesenteric vein

Eggs shapes: شكل ال spine verrrrrry important

1. S.mansoni >>>Oval +have a lateral spine
2. **S.hematobium**>>> terminal spine
3. S.japonicum>>>>circular +minute terminal spine

Shistosomiasis infectious stage>>> cercariae

Shistosomiasis host>>> snail

What is "swimmers itch " ? >>> cutaneous Shistosomiasis

Stages of shistosomiasis disease (balharzia)

1. early stage
 - a. penetration (of skin) causing>>> pruritic skin rash
 - b. migration to liver >>> fever,headach,abdominal pain
2. intermediate stage >>> oviposition
3. chronic stage >>> granuloma

S.hamatobium >>>infect bladder >>>cause Blood in urine

S.japonicum +S. mansoni>>>infect bowe>>> cause blood in stool

سؤال ميد Q: which of these organisms appear in urine??? >>>
>>>>>Shistosomiasis

In **S. haematobium** infection, the bladder mucosa becomes thickened, papillated, and ulcerated. Hematuria and dysuria result; repeated hemorrhages produce anemia. In severe infections the muscular layers of the bladder are involved, with loss of bladder capacity and contractibility. Progressive obstruction leads to renal failure and uremia. Bladder carcinoma is frequently seen

LECTURE#7

ركز على الاسم اللي داخل القوس لانه الاسئلة كانت تيجي عليه

- *Enterobius vermicularis* (pinworm)
- *Trichuris trichiura* (whipworm)
- *Ascaris lumbricoides* (large roundworm)
- *Necator americanus* and *Ancylostoma duodenale* (hookworms)

Strongyloides stercoralis مهمة جدا بالفانيل

Nematodes can cause death T/F >>> true

the infectious stage of hook-worms? Filariform larvae

the infectious stage of *Strongyloides stercoralis*? Filariform larvae

مهم the diagnostic stage of *Strongyloides stercoralis* is? Rhabtidiform larve
in stool

The only worm that we cant see it's eggs is ? *Strongyloides stercoralis*

Enterobius vermicularis (pinworm) :

>>>Cause : prurits ani (anal itching) during night

Ascaris lumbricoides (large roundworm) :

>>>Infectious stage is : embryonated egg (سؤال ميد)

Necator americanus >>>in tropical areas/cause skin rash bet. toes

Ancylostoma duodenale>>>in Mediterranean areas

LECTURE # 8

>>>The eggs of the *Taenia* possess a solid shell and contain a fully developed, six-hooked (hexacanth) embryo.

>>>The eggs of *Diphyllobothrium latum*, in contrast, are immature at the time of deposition and possess a covered aperture, or operculum, through which the embryo exits once fully developed.

Eggs of the genus *Taenia* pass in the stool of their definitive host, reach the soil, and are ingested by the specific intermediate

D. latum, whose eggs are immature on release, requires two intermediates - a copepod and a freshwater fish - to complete its larval development

Infectious stage(larva) of *Taenia* is ? >>>> *cysticercus*

Taenia Saginata: (beef tape worm disease) veryyyyyyyyyyyyyyyyy **importnat**

- inhabits human jejunum for 25 years!
- Produce eggs>> to feces>>to soil >>>ingested by cow/cattle>>penetrates intestinal wall>>> go to striated muscle (in muscle of cow it changes to Infectious larva “*cysticercus*”)
- *Human* eat uncooked meat so acquire the infection.

Diagnosis of T.saginata by finding eggs or proglottids on Celephane tape

D.latum : (Fish tape worm disease)

- the infectious stage is >>> pleroceoid larva

In T.saginata + D.Latum human >>>is 1ry host

In H.nana+ T.solium (pigs) human is >>> 1ry +intermediate host

LECTURE #9

Entemiba مهم جدا

- *E. histolytica* possesses both **trophozoite** and **cyst** forms
- The microscopic diagnosis of intestinal amebiasis depends on the identification of the organism in stool or sigmoidoscopic aspirates

Differentiation of *E. dispar* from *E. Histolytica*:

- >>> *E. Histolytica*>>> *ingested erythrocyte in trophozoites*
- The cysts of *E. dispar* and *E. Histolytica* are identical

We can use antigen test (Enzyme immunno essay)