



**Benha Faculty of**

**Benha University**

**Medicine**



**Medical Parasitology Department, Course code(0708)**

**Final Third Year Examination**

**Date:10/6/2013**

## **Model Answers**

**1) Case study: (6Marks)**

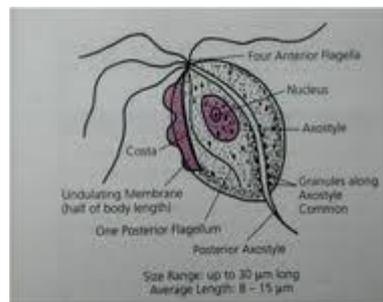
**a-Trichomonas vaginalis.(1)**

**b-The infective stage:Trophozoite.(1/4)**

**Mode of infection: Sexual intercourse.(1/2)**

**Contaminated towels and underclothes.(1/4)**

**c-Labelled diagram: (1)**



**d-Laboratory diagnostic techniques: (2)**

**1-Direct microscopic examination of vaginal and urethral discharge**

for *T.vaginalis*. In wet preparations microscopic examination must be done as soon as possible before dryness to detect motile trophozoites in between pus cells.

2-Culture of the discharge on specific media.

e-Treatment: (1)

Systemic treatment: Both partners must be treated together (Metronidazole 1.5-2gm daily for 2 weeks)

Local measures: Lactic acid douche and flagyl vaginal inserts.

## **2) Case study: (6 Marks)**

a-Suggestive diagnosis is scabies.(1)

b-The infective stage is adult *Sarcoptes scabiei*.(1/2)

Mode of infection: Direct contact with infected persons or with their clothing or bedding.(1/2)

c-Diagnosis:(1.5)

1-Examine the skin surface with a hand lens to find mite burrows.

2-Scraping affected skin regions, materials obtained is cleared by one or two drops of potassium hydroxide covered with cover slip and examined.

d-Treatment: (1.5)

1-Lindane(1% gamma benzene hexachloride) in lotion base.

2-Elimate(5% permethrin).

3-Eurax(10% crotamiton) in cream or lotion base.

e-Suggestive control measures: (1)

1-Treatment of infected persons.

2-Sterilisation of clothes and bedding.

3-Personal cleanliness.

## **3) Case study: (6 Marks)**

a-Causative parasite: *Ancylostoma duodenale*.(1)

b-The infective stage: Filariform larva.(1/2)

Mode of infection: Direct penetration of skin.(1/2)

**c-Labelled diagram of Ancylostoma duodenale egg.(1)**



**60by40u,oval with rounded ends,single thin transparent hyaline shell , and2-8cell stages content.**

**d-Taenia solium,Hymenolepis nana and Enterobius vermicularis eggs.(1.5)**

**e-Laboratory diagnosis: (1.5)**

**1-Stool examination:Finding eggs in the feces by direct fecal films, sulphate centrifugal flotation and formalin-ether concentration methods.**

**2-Harada-Mori culture:The larvae are collected from eggs.**

**4)Short notes on: (14Marks)**

**a- Aberrant sparganosis:Sparganum proliferum larva is rare tapeworm larva that grows by continuous branching and budding causing a rare fatal disease in human known as aberrant sparganosis.Segments separate and invade viscera,lungs,and brain.In the few documented cases thousands of spargana have been recovered from various tissues.The adult stage is not known.Eight cases were reported from Japan,South America,and North America.(2)**

**b- Creeping myiasis:Caused by Hypoderma and Gastrophilus in which flies deposit eggs on hair and skin after hatching larvae penetrate the skin and frequently wander beneath the skin giving rise to a creeping lesion similar to that produced by migration of larvae of dog hookworms and similarly produces an aggravating pruritus with no discharge unless secondary infected.(2)**

**c-Romana's sign:**In cases of American trypanosomiasis(Chaga's)disease, There is oedema of the eyelid and one side of the face and unilateral conjunctivitis. Causative parasite is T.cruzi and vector is winged bug.(2)

**d-The major patterns of specific immunity to parasites:(2)**

- 1-Production of specificIgE antibody and eosinophilia.
- 2-Induction of granulomatous responses and fibrosis.
- 3-CD4+ helper T-cells activation and cytokines production.
- 4-Cytolytic T-lymphocytes activation.

**e-Properties and disadvantage of Riche technique: (2)**

**Properties:**Sensitive,gives highly positive results,differentiate between viable and dead ova and can be used as an egg counting.

**Disadvantage:**Centrifugation may distort some eggs and trophozoites, not reproducible,missing of eggs trapped in fecal plug or stacked to the tube bottom and failure to separate the suspension to 4 layres.

**f-Anaemia in schistosomiasis:(2)**

**Early cases:**There is shortening of RBCs life-spans may result in normochromic normocytic anaemia.

**Established cases:**a-Blood loss results in iron deficiency anaemia.

b-Hypersplenism may result in pancytopenia.

c-Liver cell failure may result in prolonged prothrombin time with bleeding.

**g-Mode of infection of toxoplasmosis:(2)**

1-Ingestion of tissue cysts in undercooked or raw meat.

2-Ingestion of oocysts with food contaminated by cat feces.

3-Transplacental transmission(congenital).

4-During blood transfusion and organs transplantation.

5-Mucus membrane contamination with trophozoites.

**5)Compare between:(13Marks)**

<b>a-(3Marks)</b>	
<b>Malaria</b>	<b>Babesiosis</b>
<b>Man is the intermediate host</b>	<b>Man is an accidental host</b>

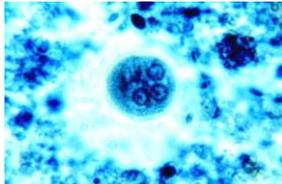
Transmitted by female Anopheles	By bite of hard tick,transovarian
Exoerythrocytic cycle in thf liver	No E.Ecycle
Schizogony and gametogony	No gametogony in human
Stippling of RBCs(pigments)	No stippling(no pigments)
Fever is periodically	Continious fever
Relapse	No relapse
Respond to antimalarial drugs	No response to antimalarials
No immunity after recovery	Solid immunity after recovery

**b-(4Marks)**

<p>1-A.lumbricoides egg containing second stage larva(60x45um with brownish inner thick shell and outer coarsely mammillated covering)in soil.</p> 	<p>2-A.duodenale filariform larva in soil(600um,cylindrical esophagus 1/4 body length and sharply pointed tail)</p> 
<p>3-S.stercoralis filariform larva in soil,rarely in stool(600um, cylindrical esophagus 1/2 body length and bifid tail end)</p> 	<p>T.colubriformis filariform larva in soil(similar to that of hookworms but has a minute knob at the tip of the tail)</p>

**c-(3Marks)**

Mature cyst of E.histolytica	Mature cyst of B.coli
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<p>15um,spherical,glycogen vacuoles in young cysts,bar like rods(chromatoid bodies),4nuclei having small central karyosome and peripheral chromatin(fine,uniform,evently distributed granules)</p> 	<p>55um in diameter spherical or oval,thick double cyst wall,retains food vacuoles,has two nuclei, macro and micronucleus.</p> 
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d-(3Marks)

<b>Calabar swelling</b>	<b>Onchocerca tumour</b>
It is allergic,transient,lasts for 2-3 days,caused by Loa loa infection.	It is inflammatory permanent nodules caused by Onchocerca volvulus.
Size:hen's egg.	Size:0.5-2.5 cm.
Site: actively moving areas(joints)	Site:over bony prominences.
Painless,firm,tense,non pitting.	Painful,itchy,firm.
No adult,no microfilaria.	Contains adult and microfilaria
-ve Mazzoti test.	+ve Mazzoti test.
Vector:Chrysops.	Vector:Simulium.

6) (12Marks,1/2 each)

- 1- Linguatula serrata nymphs.
- 2-Macrocytic hyperchromic anaemia.
- 3-50 years.
- 4-Chrysops
- 5-Sodium gluconate.
- 6- a-Intermediate host of D.latum.

- b-Intermediate host of *D.mansoni*.
- c-Intermediate host of Medina worm(*D.medinensis*)
- 7-*P.falciparum*.
- 8-Metronidazole.
- 9- a-Aquatic(*Limnatis*)  
b-Terrestrial(*Haemadipsa*)
- 10-Mature oocyst.
- 11- a-*H.heterophyes*.  
b-*D.latum*.
- 12-Transmission electron microscopy.
- 13- a-*A.lumbricoides*.  
b-*S.stercoralis*.
- 14-Rock hyrax.
- 15- a-Merthiolate iodine formaldehyde(MIF)  
b-Polyvinyl alcohol(PVA)  
c-Formol saline 10%.  
d-Bayer's solution.
- 16- *G.lamblia* infection(*Giardiasis*)

**7) (5Marks,1/2each)**

1-F 2-T 3-T 4-F 5-F 6-F 7-F 8-T 9-T 10-F

**8)MCQs:(13Marks)**

1- c    2- b    3- c    4- d    5- b    6- b    7- b

8- b    9- b    10- a    11- a    12- b    13- a    14- b

15- b    16- b    17- a    18- a    19- a    20- d    21- c

22- c    23- d    24- c    25- a    26- b



