

UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES (2ND)
April 2017
Microbiology Paper II

Date: 24.04.2017

Time allowed: 2 hours

Answer all **four** questions.

- 1) A 42 year old lady was admitted with a history of fever, headache, neck pain and vomiting of two days duration. On examination, she was drowsy and had neck stiffness. Gram staining of her cerebrospinal fluid (CSF) specimen revealed Gram positive diplococci.
- 1.1 State the most probable diagnosis and the causative organism for the above clinical picture. (10 marks)
- 1.2 Describe the role of the major virulence factor of the causative organism in relation to the pathogenesis of this illness. (15 marks)
- 1.3 Discuss the possible risk factors this patient could have had for the infection with this organism. (20 marks)
- 1.4 Describe how to collect, store and transport CSF specimen for culture to the local clinical Microbiology laboratory. (35 marks)
- 1.5 Discuss the preventive measures of the infection mentioned in 1.1. (20 marks)
- 2) A 49 year old man was admitted with severe nausea, loss of appetite and malaise for two weeks. He returned from Thailand a month ago after staying there on a business trip for three months. He was positive for hepatitis B surface antigen.
- 2.1 Describe the possible risk factors and mode of transmission of this infection for this patient. (30 marks)
- 2.2 Discuss the significance of the viral markers used in this infection. (25 marks)
- 2.3. Describe the natural course of untreated HBV infection. (20 marks)
- 2.4 Discuss the preventive measures of this infection. (25 marks)

- 3) A 40 year-old man presented to the Teaching Hospital, Jaffna with fever, irritability, dysphasia, and hydrophobia. He suffered cardiac and respiratory arrest next day and died after unsuccessful attempts at resuscitation. His wife recalled that he had a stray dog bite on his left leg two months before but had not sought treatment.
- 3.1 State the probable diagnosis and the causative agent responsible for the above illness. (10 marks)
- 3.2 Describe the source and mode of transmission of the illness mentioned in 3.1. (20 marks)
- 3.3 Describe the pathogenesis of the illness mentioned in 3.1. (20 marks)
- 3.4 Name the specimens used to confirm this illness and describe how to transport the specimens to the reference laboratory. (15 marks)
- 3.5 Describe briefly the measures which would reduce the incidence of this disease in Sri Lanka. (35 marks)
- 4) 4.1)
- A 31 year old pregnant lady complains of itching in the vaginal region. On examination, there was mild redness and curd like discharge in the vagina. She was treated with an antifungal agent.
- 4.1.1 Name the most probable causative fungus for the above mentioned clinical features. (10 marks)
- 4.1.2 Name five **other** infections caused by the organism you mentioned in 4.1.1. (15 marks)
- 4.1.3 Discuss the predisposing factors for the infections caused by the organism you mentioned in 4.1.1. (30 marks)
- 4.1.4 Discuss the antifungal agents used in the treatment of the **illnesses** caused by the organism you mentioned in 4.1.1. (25 marks)
- 4.2)
- Describe the pathogenesis of the hypersensitivity reaction that occurs in acute rheumatic fever. (20 marks)
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