

Examination for Diploma in: Pediatrics
Course Title: Pediatrics(PED700)
Date: November 14, 2020 (Paper I)
Time allowed: 3 Hours
Total Assessment Marks: 180 (5 Pages)



Tanta University
Faculty of Medicine
Department of Pediatrics

All questions should be tried:

Q 1) Infectious Diseases: (30 marks)

Discuss Epidemiology, clinical picture, complications, Investigations, treatment and differential diagnosis of Pertussis?

Q 2) Cardiology and rheumatology: (35 marks)

A. Discuss in brief: Diagnosis and treatment of long Q-T syndrome.(15)

B. Enumerate clinical diagnostic criteria of Kawasaki disease. (10)

C. Problem solving: (6)

A 3 years old child known to have dilated cardiomyopathy, developed limping and right side weakness.

a) What complication did he develop?

b) What is the pathogenesis of this complication?

c) What is the management?

D.MCQs:

1-A child with pulmonary stenosis developed heart failure, the following drug is contraindicated: (2)

- a- Digitalis.
- b- Propranolol.
- c- Diuretics.
- d- Captopril.

2-A child with constrictive pericarditis , the following sign may not be present early: (2)

- a- Congested neck vein.
 - b- Hepatomegaly.
 - c- Lower limb edema.
 - d- Ascites.
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Q 3) Respiratory System: (35 marks)

A. Short answer

Write short essay on diagnosis and treatment of Pulmonary tuberculosis in children (please write drug doses) (15)

B. Short essay

Mention Investigations of unresolved pneumonia with the expected abnormalities (10)

C. Problem solving (6)

A 5-year-old boy is presented with a 3-hour history of high-grade fever and sore throat. The child appears alert, but anxious and toxic He has mild inspiratory stridor, a muffled

voice and is drooling. He is sitting on the examination table leaning forward with his neck extended.

- a-What is the probable diagnosis?
- b-What is the most appropriate immediate management of this patient?
- c-What are the further management of the patient?

D. MCQ

1 Risk factors for persistent wheezing in children include all the following **EXCEPT(2)**

- A. parental history of asthma
- B. paternal smoking
- C. eczema at <1 year of age
- D. frequent episodes of wheezing during infancy

2. The following conditions are associated with increased intrathoracic pressure causing pneumothorax in children **EXCEPT(2)**

- A. asthma
- B. pneumatocele
- C. bronchiolitis
- D. cystic fibrosis

Q 4) Pediatric Emergencies: (25 marks)

A. Basic life support algorithm. (9)

B. Non-pulmonary Causes of Respiratory Distress.. (6)

C. Problem solving: (6)

A 4-year-old boy was victim of an accidental house fire. He had been responsive, but drowsy, at the scene of the accident. Upon arrival at the emergency department, he became unresponsive to commands, but moved all four extremities to pain. His weight was 20 kg. His initial vital signs were: heart rate 174 b min⁻¹, BP 88/40mmHg, respiratory rate of 50 breaths min⁻¹, tympanic temperature 38.8 oC. He had flame burns involving chest, abdomen, both his upper extremities, face, and parts of his lower extremities. He coughed up dark, carbonaceous sputum. He had suffered second- and third-degree burns to 52% of his total body surface area involving most of the anterior chest, abdomen, both arms, and parts of his face and lower extremities. An initial carboxyhemoglobin (COHb) level was 30%, and his ABG demonstrated a mixed respiratory and metabolic acidosis.

- A. What is the possible diagnosis?**
- B. Mention the initial management in ER and the needed investigations.**
- C. Explain the presence of mixed respiratory and metabolic acidosis**

D. MCQs:

1. Most sensitive indicator of intravascular volume depletion in infant is: (2)

- a. Stroke volume
- b. Heart rate
- c. Cardiac output
- d. Blood pressure

2. A child with large perimembranous VSD has dyspnea from congestive heart failure. What may be the cause of improvement of dyspnea in the patient? (2)

- a. Aortic regurgitation

- b. Vascular changes in pulmonary circulation
- c. Infective endocarditis
- d. Closure of VSD spontaneously

Q 5) GIT: (25 marks)

- A. Discuss briefly Clinical manifestations of gastroesophageal reflux disease in infants and children. (9)
- B. Enumerate Causes of constipation. (6)
- C. **Problem Solving:** (6)

A previously healthy 2-year-old boy developed a temperature of 40°C, cramping abdominal pain, emesis, and frequent watery stools. His aunt and many other children in his day care center have similar condition. Next day, he developed bloody stools with mucus and seemed more irritable. The mother reports that he is having a seizure.

- 1- What is the most likely diagnosis?
- 2- How can you confirm this diagnosis?
- 3- What is the best management for this illness

D. MCQs:

- 1. A 12-year-old who has several weeks of abdominal pain and black stools. Which of the following is recommended? (2)
 - a) Esophageal manometry
 - b) 24-hour pH probe
 - c) Upper GI endoscopy
 - d) Upper GI fluoroscopy (upper GI series)
- 2. A 4-year-old boy, with intermittent watery diarrhea, nausea, belching, and abdominal pain. His weight is less than the fifth percentile for his age. Which of the following studies would be most helpful in making the diagnosis? (2)
 - a) CBC and differential
 - b) ESR
 - c) Liver function studies
 - d) Stool microscopy for ova and parasites

Q 6) Pediatric Endocrinology: (15 marks)

- A. Briefly discuss causes, investigations and prognosis of congenital hypothyroidism.(5)
- B. Mention the sex maturity stages (Tanner's stages) in boys. (3)

c. Problem solving (3)

An 18-mo female with SCD develops pneumococcal meningitis. Her initial vital signs on presentation are pulse 160, RR 45, BP 65/35 mm Hg, and Temp 40°C. Initial Serum electrolyte values were normal. After IVF and antibiotics, she begins to improve. On the 2nd day of the illness, S/E results reveal Na⁺ = 115 mEq/L, K⁺ = 2.9 mEq/L, plasma glucose = 90 mg /dL, and BUN 5. Her urine sodium level is 86.

- a] What is the most likely diagnosis of the developing state on the 2nd day?
- b] What is her blood osmolality level?
- c] What is the treatment of such state?

D.MCQ:

Q4] Treatment of true precocious puberty is best achieved with(2)

- A. gonadotrophin-releasing hormone (GnRH)
- B. hypothalamic surgery to remove the hamartoma
- C. dexamethasone suppression
- D. prolactin

Q5] Gonadotropin-independent precocious puberty in females (precocious pseudopuberty) is associated with all of the following EXCEPT: (2)

- A. pulsatile secretion of LH and FSH
- B. McCune-Albright syndrome
- C. ovarian cysts
- D. exogenous estrogens

Q 7) Hepatology: (15 marks)

A- Give a short account on acute primary peritonitis (spontaneous bacterial peritonitis) in children.(5)

B- Enumerate the pediatric causes of neoplastic space occupying lesions of the liver.(3)

C) Problem solving: (3)

A 5-year-old child was referred to Hepatology clinic for abdominal distension. He had fever, right upper abdominal quadrant pain and jaundice for 2 weeks, for which he was managed by non-specific medications with no response. He received treatment for *Schistosoma mansoni* at the age of 4 years. His family lived in a rural area and breed goats and sheep in their farm. Examination showed a toxic ill-looking child, liver 4 cm and spleen 6 cm below costal margin with no shifting dullness. Investigations: Hb 10.3 gm/dl, RBC 3.9×10^{12} /L, WBC 3.5×10^9 /L (21% neutrophils, 18% lymphocytes, 61% eosinophils), Bilirubin: total 3.2 mg/dl and direct bilirubin 2.1 mg/dl, ALT 107 IU /L, AST 120 IU /L, alkaline phosphatase 400 IU /L, All virological tests were negative, Stool analysis is negative. Skin test for schistosoma is positive.

- A. What is the most likely diagnosis? Explain why.**
- B. What are the further investigations needed to confirm this suspected diagnosis?**
- C. What is the treatment?**

D- MCQ:

1-A 12-year-old overweight child is seen for evaluation of elevated liver enzymes on two occasions over the last 3 months. What should be your first step? (2)

A – Perform a liver biopsy to stage the disease and initiate vitamin E therapy.

B- Perform ultrasound and laboratory tests to characterize the patient's metabolic status and liver functions and to rule out other causes of elevated liver enzymes, followed by a tailored diet/exercise program.

C – Initiate metformin, as he is probably insulin resistant.

D- Do nothing; see for follow-up in 6 months or sooner as needed.

2- A 5-year-old girl was diagnosed with hereditary tyrosinemia in early infancy. She is successfully treated with strict dietary exclusion of phenylalanine and tyrosine starting immediately following diagnosis. If strict dietary compliance is maintained, which of the following does this child remain **MOST** at risk for in the future? (2)

A – Renal tubular acidosis.

B- Neurologic crisis.

C- Metabolic bone disease.

D- Hepatocellular carcinoma.

=====Good Luck=====

Chairman of Department

Prof. Abd Elrahman Elmashad

Abdelrahman Elmashad

