

Examination for MSc/Diploma Degree in: Health care/Neonatology

Course Title: Pediatrics

Date: **October 19, 2013**

(Paper III)

Time allowed: 3 Hours

Total Assessment Marks: 100

(3 Pages)



Tanta University
Faculty of Medicine
Department of Pediatrics

All questions should be tried

[Q1= Health Care, and Q2 to Q6 = Neonatology]

Question Number:

Marks

Q1)

A) Describe the pathogenesis of celiac disease with evidence. (10)

B) Enumerate the indications of total parenteral nutrition. (5)

C) Problem Solving : (4)

A premature infant in the neonatal ICU weighing 850 grams is receiving total parenteral nutrition (TPN). He is getting intralipids 10% at 1 cc/hr and a separate infusion at 5.5 cc/hr of crystalloid containing Dextrose 12.5% and 2 grams of amino acids per 100 cc.

- a. How many calories from carbohydrate, protein and fat is the patient receiving per day?
- b. How many calories per kg is the patient getting per day?
- c. Is this enough to gain weight?

D) MCQs : (2 x 3 marks)

1] Which vaccine should not be given to an 8 year old girl who has not been immunized previously? (3)

- a. Hepatitis B vaccine
- b. Tetanus vaccine
- c. Acellular pertussis vaccine
- d. Inactivated polio vaccine
- e. Measles vaccine

2] Vitamin K is an important cofactor in the activation of the following coagulation factors Except: (3)

- a. factor VII
- b. factor VIII
- c. protein S
- d. factor IX
- e. factor X

Q2) Give an account on total parenteral nutrition for preterm babies (fluid and electrolyte management, nutrient requirements, laboratory investigations before and during TPN and complications) (14)

Q3) Discuss in brief: (4 x 5 marks)

- a. Laboratory studies for a newborn suspected of having an inborn error of metabolism. (5)
- b. Types of neural tube defects. (5)
- c. Differential diagnosis of neonatal abdominal mass. (5)
- d. Etiology of hydrops fetalis. (5)

FR

3 surgery
A P 3c

1 gm protein → 4
CHO → 4
Lipid → 9

FT 120 150

ex 17.0

FT → PC → CE
LC → ✓

2, 7, 9, 10

↓ SP

Thrombus
Antithrom

Q 4) Mention of the following : (4 x 4 marks)

- a. Causes of neonatal bradycardia. (4)
- b. Pitfalls in Apgar score. (4)
- c. Hereditary causes of neonatal bleeding and their mode of inheritance. (4)
- d. Post natal manifestations of surgical emergencies and their appropriate causes. (4)

Q 5) Problem Solving: (5 x 3 marks)

1- A preterm 650 grn 24 weeks infant reported to have the blood Cx positive for *Listeria monocytogenes*. CBC showed 3.1 WBC, segs 15%, Hb 12, Hct 35%, NRBC 28. Electrolytes : Na 128 K 3.9, Gluc 178, bili 4.7. The CSF analysis showed : xanthochromia, RBC 13, NRBC 2, glucose 116. leues
r

- a- What is your diagnosis?
- b- How to approach the mother?

2- A 26-day-old 3.5 kg infant is stooling in large quantity after reanastomosed following ileostomy. You started the baby on loperamide 0.1 mg po TID. The nurse is asking to add thickening agent to the formula to decrease the transit time. (3)

= What is the best action?

3- A 37 wk 4.5 Kg IDM, born after difficult labor, is noted to have respiratory distress. The CBC showed WBC of 24 with bands of 4%, Hb is 19 g/dl. Chest x-ray showed no fractures and clear lung fields. (3)

= What is the most likely cause for the respiratory distress ?

4- A 6-day-old female infant presents to the NICU with jaundice. She was delivered at term after an uncomplicated pregnancy, with a birth wt of 2.8 kg. The parents are first-degree cousins, and the family history is unremarkable. The baby is breastfed. The prenatal history is not well-known. Examination reveals a hypoactive, jaundiced infant whose temperature is 36.2°C, heart rate is 156 /min, RR is 35 breaths/min, and BP 60/35 mm Hg. His weight is 2.9 kg, length is 50 cm, and HC 35 cm. She has a regular heart rate and rhythm, with no murmurs. The lungs are clear to auscultation bilaterally. His liver is palpable 4 cm below the costal margin. The remainder of the examination are normal. Lab. results: serum total bilirubin 24 mg/dL with a direct bilirubin of 3 mg/dL ; serum AST, 38 U/L; ALT, 19 U/L; γ -glutamyl transferase, 144 U/L; ALP 520 U/L ; creatinine, 0.4 mg/dL ; sodium, 149 mEq/L ; potassium, 4.6 mEq/L, and negative CRP. CBC: hemoglobin 18 g/dL; hematocrit, 46%, WBC 10×10^3 /cmm with normal DLC and platelet count 224×10^9 /L. 10,000

- a- What is your diagnosis?
- b- What is most important investigation at this point?

5- The nurse from the newborn nursery calls you about a 16 hr old baby whose glucose is 30 mg/dl. He is being fed by breast and mom who is gravida 5 para 5 is happy with the amount. The delivery was uncomplicated with Apgar of 9/9. The birth weight was 2.8 kg. On exam you note slight jitteriness, fair muscle tone, soft non-distended abdomen, mild tachypnea, no murmur and normal male genitalia with penis of 3 cm and bilateral descended testes. His lab. shows normal CBC. Na 135, Cl 95, K 4.5, HCO₃ 13, BUN 12, creatinine 0.8. 3 - PT

= What is the most appropriate initial test that would help in diagnosis?

Aldosteron
Na

Q6) MCQs: (Choose one answer) (5 x 2 marks)

1. During resuscitation, if the baby's heart rate remains below 60 beats per minute , you can repeat the dose of epinephrine every: (2)
 - a) 3-5min
 - b) 2-4 min
 - c) 1-3min
 - d) 4-6min

2. All the followings are manifestations of withdrawal syndrome Except: (2)
 - a) Apneic attacks
 - b) Acidosis
 - c) Rub marks
 - d) Lacrimation

3. What is the acceptable scalp pH for the fetus ? (2)
 - a) > 7.2
 - b) > 7.25
 - c) > 7.35
 - d) 7.35

4. These are the factors that affect the efficacy of phototherapy Except: (2)
 - a) Spectrum of light emitted
 - b) Spectral irradiance.
 - c) Cause of jaundice .
 - d) Blood Glucose level

5. These are factors predisposing to periventricular leukomalacia Except: (2)
 - a) Cerebral ischemia.
 - b) Infection.
 - c) Vulnerability of pre-oligodendroglia to free radicals.
 - d) Hyperoxia during resuscitation.

===== Good luck =====

Chairman of Department:
Prof. Dr. Adel Ali Erfan.

Examination for MSc/Diploma Degree in: Pediatrics
Course Title: Pediatrics
Date: October 7, 2013 (Paper I)
Time allowed: 3 Hours
Total Assessment Marks: 100 (3 pages)



Tanta University
Faculty of Medicine
Department of Pediatrics

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All questions should be tried

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Question Number: Marks

Q1) Discuss management of life threatening cardiac arrhythmia in ER and PICU
(ECG figures required) (20)

Q2)

A- Discuss briefly the clinical presentations and investigations of Systemic Lupus
Erythematosus in children. (6)

B- Enumerate causes of pulmonary hypertension in children. (3)

C- Problem solving : (3)

A 10 years old male presented with history of productive cough, headache and fever off
and on for the past 4 years. On examination, patient had clubbing . On systemic examination,
bilateral crepitations and rhonchi were present. A chest X-ray was done which showed
dextrocardia. Echocardiogram was done and revealed left ventricular ejection fraction
(LVEF) 65% and mitral flow E/A 1.4.

a) What is the possible diagnosis of this child?

b) Mention 4 laboratory investigations must be done for this case.

c)What is the significance of LV EF?

C- MCOs :

1- Compared to oral digitalizing dose in treatment of CHF in children, the parenteral dose
of digoxin is: (2)

a) 10%, b) 25%, c) 50%, d) 75%

2- All of the following are true regarding ventricular tachycardia in children Except: (2)

a) There may be positive family history of ventricular arrhythmia or sudden death.

b) VT may signify serious myocardial pathology or dysfunction, and it may occur in
healthy children with normal heart.

c) It occurs due to accessory conduction pathway between the atrium and the ventricle.

d) IV amiodarone is used in treatment of patients with drug-refractory VT.

Q3)

A- Discuss in brief differential diagnosis of acute flaccid paralysis. (6)

B- What is the meaning of selective pyramidal weakness? (3)

C- Problem solving : (3)

A six-year-old male child was referred to hospital with acute right hemiplegia .
He had three episodes of transient left-sided weakness with facial deviation occurring
over the preceding 2 months prior to referral. There had been no alteration in his sensorium
during or following these episodes. There were no seizures. The episodic weakness lasted for 3-4
days, followed by complete recovery. He had no neurological deficit in between attacks. He had no

- C- Problem Solving (3)
A 33 yrs old woman gives birth to a baby girl. The next day the baby begins to bleed from vagina and from venipuncture sites . Laboratory studies demonstrated decreased platelets, prolonged PT, and PTT and increased fibrin split products.
a) What is the possible diagnosis?
b) What is the treatment?

- D- MCQs
1- Thrombocytopenia is a recognized association with all of the following Except: (2)
a. Henoch-Schonlein purpura
b. Septicemia
c. Von Willebrand disease
d. Hypersplenism
2- The bad prognostic cytogenetic abnormality in AML is: (2)
a. Translocation (8,21)
b. Translocation (15,17)
c. Translocation (9,22)
d. Translocation (16,16)

Q6)

- A) Describe clinical manifestations of meningococcal meningitis in 3 years old child. (6)
B) Enumerate : common complications of mumps. (3)
C) Problem solving: (3)
A child one years old was admitted to pediatric ICU in isolated room. He presented by severe hypoxia, bilateral basal crepitations and respiratory failure. The patient is known to have HIV infection, plain x-ray show perihilar and parenchymal infiltrates with "ground-glass" appearance.
a) What is the most common organism causing this pneumonia?
b) What is the drug of choice for treatment of this organism?
c) Enumerate 4 antiviral drugs active against HIV.

- C) MCQs:
1- A 15 month old child presents to your office with a high fever and an intense, red rash on the cheeks with circumoral pallor. The most likely etiology of his febrile exanthema is: (2)
a) Enterovirus 71
b) Adenovirus
c) Parvovirus B19
d) Rubeola virus
e) Coxsackievirus A16
2-Which of the following is a TRUE statement about varicella? (2)
a) It has an incubation period of 5 – 7 days
b) The prodromal stage is severe with high fever
c) It is associated with Koplik spots
d) Fever increase with the appearance of exthanthum
e) It can cause visceral dissemination in the immune-compromised host

=====Good luck=====

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