Examination for MD Degree in: Pediatrics
Course Title: Pediatrics
Date: October 31, 2019 (Paper III)
Time allowed: 1.5 Hours
Total Assessment Marks: 200

Tanta University
Faculty of Medicine
Department of Pediatrics

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Case Commentary:

A 7 month old female child, 2nd product of second degree consanguineous marriage, She had one healthy older sister. After birth, she was presented with a congenital torticollis, edema of the eyelid during 15 days, and feeding difficulties with significant gastroesophageal reflux.

Head control was acquired at 4 months. A bilateral divergent strabismus and nystagmus were then observed, without anomaly associated at ophthalmological examination. Brain MRI (magnetic resonance imaging) performed at 5 months of age was normal.

At 6 months, neurological examination showed a central hypotonia and a poor maintenance of eye contact with psychomotor regression, abnormal muscle tone, weakness, dystonia, brainstem and cerebellar dysfunction (ataxia), visual loss, regression of the achieved milestones.

At 7 months, she exhibited a sudden neurological deterioration, during a viral infection with, progressive course over a few days, many episodes of unconsciousness, status epilepticus with severe hypotonia and respiratory disorders, evolving to a coma with hypoventilation, requiring endotracheal intubation, and persistent high blood pressure. On initial examination, she was unconscious (Glassgow Coma Scale-5) and afebrile.

Initial management aimed at controlling the seizures with Diazepam (i.v., 0.3 mg/kg stat) and Phenytoin (i.v., 20 mg/kg stat followed by 5 mg/kg per 12 hourly). Following control of seizures the child went into decerebrate posturing. Her pulse was 154 beats per minute, respiratory rate 36 cycles/minute and blood pressure 84/46 mm Hg. Her weight was 5 kg and height 62 cms.

CNS examination showed increased tone in the lower limbs. Deep tendon reflexes were exaggerated with bilateral Babinski sign. Pupils were dilated and sluggishly reacting to light. Fundus examination and visual evoked potentials were normal.

After an hour of admission, she became apnoeic and was put on ventilator. After correction of the respiratory acidosis, the biological analyses showed a lactic acidosis with hyperlactatemia (4.73 mmol/L, n: 0.6–2.2 mmol/L), elevated lactate/pyruvate ratio (27, n : 10) and hyperlactatorachia (2.77 mmol/L, n: 1.2–2 mmol/L).

Routine haemogram revealed haemoglobin 8.8 gm%, packed cell volume 28.6%, total leucocyte count 26,800 cells per cmm with marked neutrophilia (85%) and lymphocyte count 10%. Cerebrospinal fluid examination showed 4 cells, all lymphocytes and normal sugar and protein levels. CSF lactate was significantly raised (8.8 mmol/L). Gram and ZN staining of the CSF showed no organism and pus cells. Renal function test was within normal limits. Blood and urine cultures were negative.

Magnetic Resonance Imaging was done which showed bilateral, symmetrical abnormal lesions in the basal ganglia, thalami, cerebral peduncles, dorsal medulla and peri aqueductal grey matter which were hyperintense in T2W, FLAIR and DW images.There were prominent extra cerebral CSF spaces in the fronto-temporo-parietal region on both the sides and showed the similar signal characteristics. Frontal atrophy with myelination normal for age was noticed.

Please comment.

==========***Good luck***==========

Chairman of Department:
Prof. Dr. Abdel Rahman M. Almashad.

Examination for MD Degree in: Pediatrics
Course Title: Pediatrics
Date: October 24, 2019 (Paper II)
Time allowed: 3 Hours
Total Assessment Marks: 260

Tanta University
Faculty of Medicine
Department of Pediatrics

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All questions should be tried

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Question Number:	Marks
Q 1) Discuss bronchopulmonary dysplasia: prediction, management, and prevention.	(50)
Q 2) Give an account on tumor lysis syndrome.	(25)
Q 3) Give a brief account on aphasia in children.	(25)
Q 4) Briefly discuss inherited colorectal cancer syndrome.	(25)
Q 5) Give short notes on pediatric liver transplantation.	(25)
Q 6) Give an account on nail changes in systemic diseases.	(25)
Q 7) Give an account on medical emergencies in children with cerebral palsy.	(25)

Q 8) MCQs, *(3 marks for each question):*

1. In what scenario should testing for immunodeficiency be considered?
   a. Toddler with 10 upper respiratory tract infections in 1 yr
   b. 3 yr old with 2 documented pneumonias in 1 yr
   c. 5 yr old with diagnosis of RLL pneumonia requiring hospitalization
   d. Adolescent with Mycoplasma pneumonia by PCR who had mononucleosis and strept. pharyngitis earlier in the year
   e. 4 yr old with 2nd pneumonia diagnosis; 1st occurred at age 6 mo

2. You suspect scoliosis in a 13 yr old girl. How can you best assess the presence and severity?
   a. Upright, postero anterior radiograph with measurement of the Cobb angle
   b. Pulmonary function test
   c. CT of the spine
   d. Chest radiograph and KUB view
   e. Ultrasound of the spine

3. Pulsus paradoxus could be associated with all of the following EXCEPT:
   a. Obesity
   b. Pericarditis
   c. Endocarditis
   d. Severe dyspnea
   e. Positive pressure ventilation

4. All of the following statements regarding elliptocytosis are true EXCEPT:
   a. It is inherited as a dominant disorder
   b. It may produce neonatal jaundice even though characteristic elliptocytosis may not be evident at the time
   c. The most severe form of hereditary elliptocytosis, hereditary pyropoikilocytosis (HPP), is characterized by macrocytosis
   d. No treatment is necessary unless hemolysis is present
   e. Patients with chronic hemolysis should receive folic acid to prevent secondary folic acid deficiency

5. All of the following statements about paroxysmal nocturnal hemoglobinuria (PNH) are true EXCEPT:
   a. Bone marrow failure is a rare presentation of PNH
   b. Chronic hemolysis is more common than nocturnal and morning hemoglobinuria in patients with PNH
   c. Thrombosis and thromboembolic phenomena are serious complications of PNH
   d. Flow cytometry is the diagnostic test of choice for PNH
   e. Splenectomy is not indicated for PNH

6. Which of the following cancers has the highest incidence in young children (7 yr of age)?
   a. Ewing sarcoma
   b. Hodgkin disease
   c. Testicular cancer
   d. Retinoblastoma
   e. Osteosarcoma

7. A newborn infant develops nephrotic syndrome within the 1st 2 wk of life. Which of the following is the most likely cause of this patient's nephrotic syndrome?
   a. Congenital toxoplasmosis
   b. Abnormality in the nephrin gene
   c. Congenital syphilis
   d. Abnormality in the polycystin gene
   e. Maternal exposure to ACE inhibitors

8. All of the following statements regarding malignant hyperthermia are true EXCEPT:
   a. It is inherited as an autosomal dominant trait
   b. Acute episodes are typically precipitated by intravenous administration of dyes for radiographic studies
   c. Myoglobinuria may result in tubular necrosis and acute renal failure
   d. Attacks may be prevented by administration of dantrolene sodium
   e. Metabolic acidosis may be severe

9. Cataracts are noted in all of the following EXCEPT:
   a. Congenital rubella infection
   b. Galactosemia
   c. Neonatal hypoglycemia
   d. Lowe syndrome
   e. Hyperoxygenation

10. A previously healthy 8 mo old infant develops bronchiolitis. On the 4th day of illness she is noted to have bulging, opaque, white eardrums bilaterally. Which of the following treatment regimens is the most appropriate to institute?
   a. High-dose oral amoxicillin
   b. Intramuscular ceftriaxone
   c. Oral cefixime
   d. No initial antibiotic treatment; watchful waiting
   e. Oral azithromycin

11. A 15 yr old girl who had new-onset seizures was started on carbamazepine 4 wk ago. She now has a diffuse erythematous macular rash, fever, lymphadenopathy, eosinophilic leukocytosis, and elevated values on liver function tests. The most likely cause of these abnormalities is:
   a. Erythema multiforme
   b. Stevens-Johnson syndrome
   c. DRESS syndrome
   d. Serum sickness
   e. Toxic epidermal necrolysis

12. Complications of Stevens-Johnson syndrome include all of the following EXCEPT:
    a. Corneal ulceration
    b. Polyarthritis
    c. Osteomyelitis
    d. Myocarditis
    e. Hepatitis

13. Associated conditions in infants with developmental dysplasia of the hip (DDH) include all of the following EXCEPT:
    a. Breech position
    b. Metatarsus adductus
    c. Torticollis
    d. Ligamentous laxity
    e. Muscular dystrophy in males

14. The patellofemoral stress syndrome (PFSS) is characterized by all of the following EXCEPT:
    a. Worsening of pain on going up stairs
    b. "Giving way" and then falling
    c. Chronic anterior knee pain
    d. Worsening of pain with prolonged sitting
    e. Presence of medial patellar tenderness

15. Which of the following is the most common infectious cause of congenital hearing loss?
    a.Toxoplasmosis
    b.Syphilis
    c.Rubella
    d.Cytomegalovirus (CMV)
    e.Herpes

16. The distinguishing laboratory finding of progressive familial intrahepatic cholestasis type 2 (PFIC2) as opposed to PFIC1 or PFIC3 is:
    a. Elevated gamma-glutamyltransferase (GGT)
    b. Low GGT
    c. Elevated aspartate aminotransferase (AST)
    d. Elevated alanine aminotransferase (ALT)
    e. Non of the above

17. A newborn male has profound hypotonia and features suggestive of trisomy 21. He is found to have hepatomegaly, hyperbilirubinemia, and synthetic liver dysfunction. Which diagnosis should be considered?
    a. Zellweger syndrome
    b. Mucopolysaccharidosis
    c. Smith-Lemli-Opitz syndrome
    d. Pyruvate carboxylase deficiency
    e. Krabbe disease

18. A 30-year-old G3P1011 woman presents at 12 weeks with known Kell sensitization. She had an uncomplicated pregnancy 4 years ago and a 24-week fetal demise that occurred last year. She had a motor vehicle accident 5 years ago that required multiple blood transfusions. She is wondering if Kell sensitization caused the fetal demise. How would you answer her question?
    a. It definitely caused the fetal demise.
    b. It cannot cause fetal demise unless there was bleeding in the pregnancy.
    c. It did not cause the fetal demise because her first pregnancy was uncomplicated.
    d. It may have caused the demise; paternal antigen testing is required to determine if other pregnancies are at risk.
    e. It did not cause fetal demise at all

19. A preterm infant born at 26 weeks' gestation is now 3 days old u are considering initiating trophic enteral feeds. Mom is known to be seroposit , cytomegalovirus (CMV) and she asks you about the risk of transmission of CMV through h st milk and the risk of pneumonia due to CMV. What is your response?
    a. CMV is eliminated by freeze-thawing process.
    b. CMV only rarely causes pneumonia, postnatally.
    c. CMV can cause interstitial pneumonia in preterm infants but can be eliminated by short-term pasteurization.
    d. Provide preterm formula as the risk of pneumonia is very high.
    e. Breast milk is contraindicated in this situation

20. Osteogenesis imperfecta is characterized by all of the following EXCEPT:
    a. Defects in type I collagen
    b. Absence of lethal variants
    c. Autosomal dominant inheritance
    d. Vertebral compression fractures
    e. Long bone fractures

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

Chairman of Department:
Prof. Dr. Abdel Rahman M. Almashad.

Examination for MD Degree in: Pediatrics
Course Title: Pediatrics
Date: October 19, 2019 (Paper I)
Time allowed: 3 Hours
Total Assessment Marks: 260

Tanta University
Faculty of Medicine
Department of Pediatrics

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All questions should be tried

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Question Number:	Marks
Q 1) Give an account on diseases characterized by chromosomal breakage.	(50)
Q 2) Give an account on eating disorders in children and adolescent.	(25)
Q 3) Give a brief account on serotonin syndrome.	(25)
Q 4) Briefly discuss cardiac tamponade.	(25)
Q 5) Give short notes on childhood bullying.	(25)
Q 6) Give an account on cardiac complications of systemic lupus erythematosus.	(25)
Q 7) Give an account on neuropathic pain syndromes.	(25)

Q 8) MCQs, (3 marks for each question):

1) You are evaluating a 5-year-old child with breath holding spells, the history given includes pallor with abnormal limb movement lasted for 5 minutes followed by sleep. All the following are true responses/advices EXCEPT:
A. reassurance, behavioral instruction to parents and follow up
B. order MRI brain
C. order an ECG
D. order an EEG
E. neurological consultation

2) All the following are characteristic features of autistic spectrum disorder (ASD) EXCEPT:
A. defective social communication
B. highly restricted fixated interests
C. scarce of gesture use
D. stereotyped motor movements
E. absence of routines

3) A 15-month-old male child with failure to thrive, diarrhea and fatty stool, of the following the MOST common possible cause of his illness is:
A. malabsorption
B. intestinal parasites
C. milk protein intolerance
D. pancreatic insufficiency
E. immunodeficiency

4) Encephalopathy in refeeding syndrome is mainly a result of:
A. hypophosphatemia
B. hypokalemia
C. hypomagnesemia
D. thiamine deficiency
E. hyperglycemia

5) The first factor to be affected by deficiency of vitamin K is:
A. Factor I
B. Factor II
C. Factor VII
D. Factor IX
E. Factor X

6) The MOST common manifestation of cerebral edema from an overly rapid decrease of serum sodium concentration during correction of hypernatremic dehydration is:
A. irritability
B. hyperreflexia
C. spasticity
D. seizure
E. coma

7) The best fluid bolus giving to a child with isolated vomiting and severe dehydration is:
a. normal saline
b. ringer lactate
c. half-normal saline
d. hypertonic (3%) saline
e. 5% dextrose + half-normal saline

8) The MOST important indication of mechanical ventilation in respiratory acidosis is:
A. PCO2 >75 mm Hg
B. concomitant metabolic acidosis
C. slowly responsive underlying disease
D. hypoxia that responds poorly to oxygen
E. tiring patient

9) A 12-month_old infant found unresponsive in kindergarten, you were there as health visitor, you asked for activation of EMS and to bring a nearby automated external defibrillator (AED) machine, you check the pulse; it was 60/min. Your next response is to:
a. open the air way
b. give one breath every 3 seconds
c. begin cycles of 30 compressions with 2 breaths
d. begin a cycles of 15 compressions with 2 breaths
e. attach and use AED

10) All the following are red flags in evaluating a patient with syncope EXCEPT:
a. syncope with exercise
b. family history of syncope
c. presyncopal feeling of light headedness
d. history of Kawasaki disease
e. injury with syncope

11) All the following are signs of increased intracranial pressure (ICP) and impending brain herniation EXCEPT:
a. pupillary dilation
b. 4th cranial nerve palsy
c. systemic hypertension
d. bradycardia
e. extensor posturing

12) Amyloidosis is the most serious complication of familial Mediterranean fever(FMF), and in its absence, FMF patients may live a normal life span. Of the following, the organ that is not affected by secondary amyloidosis of FMF is:
A. kidney
B. lung
C. nerve
D. heart
E. testes

13) Which of the following is a T-lymphocyte independent vaccine?
A. hepatitis A
B. hepatitis B
C. pneumococcal
D. varicella
E. diphtheria

14) Which of the following vaccine is contraindicated for a patients with X-linked agammaglobulinemia?
A. BCG
B. hepatitis B
C. DPT
D. MMR
E. varicella

15) Fever is defined as a rectal temperature of:
A. ≥ 37.5'C
B. ≥ 37.6°C
C. ≥ 38°C
D. ≥38.1'C
E. ≥ 38.5'C

16) Leukocyte adhesion defects are caused by defects in the *B* chain of integrin (CD18), which is required for the normal process of neutrophil aggregation and attachment to endothelial surfaces. It is characterized by all the following EXCEPT:
A. delayed cord separation
B. recurrent infections
C. ecthyma gangrenosum
D. neutropenia
E. survival is usually <10 yr

17) Toxic shock syndrome is an acute and potentially severe illness characterized by all the following EXCEPT:
A. desquamation on the hands and feet
B. myalgia
C. focal neurologic abnormalities
D. conjunctival hyperemia
E. strawberry tongue

18) A bezoar is an accumulation of exogenous matter in the stomach or intestine. Regarding bezoar, all the following are true EXCEPT:
A. trichobezoars are composed of the patients own hair
B. lactobezoars can be attributed to the high casein or calcium content of some premature formulas. .
C. phytobezoars are composed of a combination of plant and animal material
D. lactobezoar usually resolve when feedings are withheld for 24-48 hr
E. sunflower seed bezoars are reported to cause small bowel obstruction

19) Nitazoxanide is an anti-infective agent effective in the treatment of a wide variety of pathogens including the following EXCEPT
A. Giardia lamblia
B. E. histolytica
C. Shigella
D. C. difficile
E. Rotavirus

20) The classic Laboratory diagnosis of idiopathic pulmonary hemosiderosis are the following EXCEPT: .
A. microcytic hypochromic anemia
B. elevated reticulocyte count
C. normal plasma bilirubin
D. reduced serum iron
E. elevated iron binding capacity

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

Chairman of Department:
Prof. Dr. Abdel Rahman M. Almashad.