Pediatric Department
Examination for MD Degree
Course Title: pediatrics (paper I)
Date: 1/6/ 2021
Time allowed: 3hours
All Questions should be tried

TANTA UNIVERSITY
Faculty of Medicine

Total assessment: 260 Marks

Long essay

Q1: Pulmonary manifestations of endocrine and metabolic diseases in children.

(50 marks)

Short essay

Q2: Age-specific Behavioral Disturbances in infants and Children. (25marks)

Q3: Multisystem inflammatory syndrome in children (MIS-C) (25 marks)

Q4: Fetotherapy (25 marks)

Q5: Fecal Microbiota Transplantation (25 marks)

Q6: Gut-Lung axis in COVID -19 (25 marks)

Q7: Renal angina Index (25 marks)

Q8. MCQs, *(total 20 MCQ, 3 marks for each):*

1. The adverse long-term outcome in polycythemia is most likely due to:
   a) Chronic intrauterine hypoxia and hyperviscosity
   b) Acute hypoxia
   c) Hyperoxia
   d) Hypercarbia

2. Pulmonary interstitial emphysema (PIE) can be prevented by:
   a) Avoiding high positive inspiratory pressure (PIP)
   b) Avoiding high oxygen use
   c) Increasing high PIP
   d) Increasing mean ventilatory pressure

3. A child suddenly developed a difficulty to move the right eye laterally. He has been suffering from the right otitis media and the tympanic membrane perforation for the last 6 months. He denies history of a vomiting. He has no headaches. The most likely diagnosis is:
   a) Mobius syndrome
   b) Brown syndrome
   c) Duane syndrome
   d) Double elevator palsy.

4. A child develops hemorrhagic necrosis of the small intestine secondary to Clostridium perfringens infection. The following toxin is responsible for this clinical manifestation:

a) Alpha toxin
b) Beta toxin
c) Iota toxin
d) Hemolysin

5. All the following are False regarding activation of the enzyme systems in diarrhea associated with cholera toxin, except:

a) Guanylate cyclase.
b) Adenylate cyclase.
c) Na-glucose co-transporter.
d) Na+/K+ ATPase pump.

6. Infectious mononucleosis is the best known clinical syndrome caused by Epstein Barr virus (EBV), it is characterized by

a) Symptomatic hepatitis
b) Elevated liver enzymes
c) Massive splenic enlargement
d) Huge hepatomegaly

7. A 10-month-old boy presented with failure to thrive, fever, jaundice, hepatomegaly, and severe rickets. Investigations revealed hypoglycemia and normal anion gap metabolic acidosis. Of the following, the MOST likely enzyme deficiency is

a) Acid B-glucosidase
b) B-hexosaminidases
c) Acid sphingomyelinase
d) Fumarylacetoacetate hydrolase

8. A 9 month-0ld boy presented with recurrent attack of diarrhea, thrush failure to thrive shortly after birth. You suspect immune deficiency.
Of the following, the MOST common cause of this condition is

a) Defect in phagocytic cells
b) Deficiencies in T-cell function
c) Defect in antibody production
d) Defect in complement proteins

9. The best treatment option for step -6- severe persistent asthma in a 6_year-old boy IS

a) High dose inhaled corticosteroids with leukotriene receptor antagonist
b) Low dose inhaled corticosteroids with leukotriene receptor antagonist
c) High dose inhaled corticosteroids with long acting b_agonist and oral Corticosteroids
d) High dose inhaled corticosteroids with long acting b-agonist and oral Corticosteroidsalong with omalizumab therapy

10. Lemierre syndrome is characterized by septic thrombophlebitis of the internal jugular veins with septic pulmonary emboli, producing hypoxia and pulmonary infiltrates, it is a complication of pharyngitis caused by

a) Arcanobacterium haemolyticum
b) Mycoplasma pneumoniae
c) Fusobacterium necrophorum
d) Corynebacterium diphtheriae

11. Appendicitis-like symptoms (diarrhea‹ vomiting fever, and abdominal pain) may be Seen in the following food borne bacterial illness

a) Vibrio vulnificus
b) Yersinia enterocolitica
c) Shigella spp.
d) Staphyloccous aureus (preformed enterotoxin)

12. In treatment of lupus nephritis, plasmapheresis is effective in

a) Classes III and IV
b) Maintenance therapy
c) Reducing proteinuria
d) Accompanying thrombotic thrombocytopenic purpura

13. A 14-day-old male newborn appears with fever, irritability, crying, poor weight gain, and polyuria. A physical examination reveals mild dehydration. SMA 6 reveals hypernatremia, high BUN, and elevated creatinine. The serum osmolality values is 300 mOsm/kg and the urine osmolality value is 280 mOsm/kg. The most likely diagnosis is:

a) Renal tubular acidosis
b) Nephrogenic diabetic insipidus
c) Bartter syndrome
d) Gitelman syndrome

14. Calcification within the adrenal glands may occur in wide variety of situations some serious and others of no obvious consequence Adrenal calcifications are bilateral in

a) Neuroblastomas
b) Ganglioneuromas
c) Wolman disease
d) Cortical carcinomas

15. Dravet syndrome is characterized by all the following EXCEPT

a) The most severe of the phenotypic spectrum of febrile seizures
b) Seizures subsequently start to occur without fever
c) Developmental delay
d) An autosomal dominant inheritance

16. A 6-week-old infant presents with jaundice, conjugated hyperbilirubinemia, and elevated liver enzymes. γ-Glutamyl transferase level is 562 U/L. Which of the following diagnoses is least likely in this neonate?

a) Biliary atresia
b) Alagille syndrome
c) Bile acid synthetic disorder
d) MDR3 deficiency

17. Acute respiratory insufficiency is often the MOST prominent clinical manifestation of.

a) Guillain-barre syndrome
b) Spinal muscular atrophy
c) Congenital myotonic dystrophy
d) Myasthenia gravis

18. Many inborn errors of metabolism cause generalized convulsions in the newborn period, prominent hiccups, persistent seizures and lethargy rapidly leading to coma are features of

a) Propionic academia
b) Maple syrup urine disease
c) Nonketotic hyperglycemia
d) Leigh disease

19. A slowly progressive ataxia that involves the lower extremities to a greater degree than the upper extremities. The Romberg test result is positive; the deep-tendon reflexes are absent (particularly at the ankle), and the plantar response is typically extensor (Babinski sign).
Of the following, the MOST likely cause of this ataxia is

a) Ataxia-telangiectasia
b) Friedreich ataxia
c) Abetalipoproteinemia
d) Ramsay hunt syndrome

20. A 3-year-old boy presented with history of hyperactivity and mild mental retardation. Past history revealed repeated projectile vomiting with normal abdominal sonography. On examination, there are eczematoid rash with lighter skin, microcephaly, and mild spasticity with exaggerated tendon reflexes. Of the following, the MOST likely urine odor of this baby is

a) Musty
b) Rotting fish
c) Sweaty feet
d) Boiled cabbage

-------Good Luck------

Prof. Abdel Rahman M. Elmashad. Chairman of Department

Prof. Mostafa M. Awny

Prof.Mohamed R. Elshanshory

Examination for MD Degree in: Pediatrics
Course Title: Pediatrics
Date: June 15, 2021 (Paper III)
Time allowed: 1.5 Hours

Tanta University
Faculty of Medicine
Department of Pediatrics

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Case Commentary:

A 9-month-old girl presented with history of increasing head size and stiffness of limbs since 4 months of age. She was born as the only child of non-consanguineous marriage, no other relevant antenatal illness other than history of urinary tract infection (UTI) in first trimester. Baby had birth weight of 2.4 kg and head circumference of 32 cm at birth. She had mild respiratory distress on day 1 and was kept in neonatal intensive care unit (NICU) for 2 days and had no other complications till 4th month of life.
Although baby had social smile at 2 months, by 4 months she had no head control and had not turned over. Mother noticed stiffness of all four limbs since then. Mother noticed persistent fisting of hands with thumb inside the fist and progressive increase in head size also. Baby was not focusing on objects and she was only responding to sound.

At 6 months, she can turn over few times; she could not lift her head. By 9 months baby had still not attained head steadiness, lost turning over, could not lift her head in prone position and could not sit with support, and was holding objects only when placed in hands. At the same time her social interaction was comparatively maintained and was uttering monosyllables. She was still not fixing at object.
No history of seizures, squint, nasal regurgitation or sucking difficulty. No abnormal movements or abnormal startle response to sound. She had no abnormal eye movements or head nodding movements.

On examination, there was large head with bilateral parietal prominence, open anterior fontanelle with active pulsations and inspiratory stridor were present. No cataract and no organomegaly.
Weight—6.5 kg, height—66 cm, normal US:LS ratio and OFC—45.5 cm. Gross motor development corresponded to 2 months, Fine motor—4 months, social corresponding to 6 months and language milestones corresponding to 7 months.
Fundus examination showed bilateral optic atrophy and no cherry red spots. Motor system showed truncal hypotonia, spasticity of all four limbs; lower limb more than upper limbs with significant head lag. Limbs had at least grade 3 powers. Deep tendon reflexes were exaggerated.
No titubation, limb ataxia or sensory deficits were present. Some investigations were done including :
MRI head—Both T 1 & T2 was abnormal. Gene analysis with gene sequencing studies was done and reveal the diagnosis.

Please discuss the case. Comment on differential diagnosis.
What is the most accepted diagnosis?
Please for further confirmatory investigations?

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

Prof. Dr. Abdel Rahman M. Almashad. Chairman of Department
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Pediatric Department
Examination for MD Degree
Course Title: pediatrics (paper II)
Date: 8/6/ 2021
Time allowed: 3hours
All Questions should be tried

TANTA UNIVERSITY
Faculty of Medicine

Total assessment: 260 Marks

Long assay

Monoclonal antibodies therapy in pediatric hematology and oncology. (50 marks)

Short assay

Q1: Syndromic forms with albinism. (25marks)

Q2: Nodal Arrhythmias. (25marks)

Q3: Characteristics of trace minerals deficiency. (25 marks)

Q4: Infantile tremor syndrome. (25 marks)

Q5: Nail defects in pediatrics. (25 marks)

Q6: Kawasaki Disease Shock Syndrome Versus Septic Shock. (25 marks)

MCQs **(total 20 MCQ, 3 marks for each):**

1. Parent-to-child transmission (vertical transmission) character of autosomal dominant inheritance, for many patients with an autosomal dominant disorder there is no history of an affected family member. All the following are true explanations EXCEPT
    a) New mutation
    b) Somatic mutations (mosaicism)
    c) Digenetic inheritance
    d) Incomplete penetrance

2. All the following are features of mitochondrial inheritance EXCEPT
    a) Non-traditional inheritance
    b) Maternal inheritance
    c) Male to offspring transmission
    d) Both sexes are affected

8. Pediatricians are likely to experience unique problems in managing childhood victims of biologic or chemical attack. The very rapid onset of neuromuscular symptoms after an exposure should lead the clinician to consider

a) Botulism
b) Nerve agent intoxication
c) Chlorine
d) Phosgene

9. One of the following differentiate organophosphate poisoning and methamphetamine intoxication from bark scorpion envenomations

a) Paresthesias
b) Roving eye movements
c) Cranial nerve dysfunction
d) Seizures

10. The following is a major Duke criterion for the diagnosis of endocarditis

a) New valve regurgitant flow by echocardiography
b) Osler nodes
c) Single positive blood culture
d) Serologic evidence of infection

11. The MOST common long-term complication for those patients who underwent early repair of complete atrioventricularcanal before the development of pulmonary vascular disease is

a) Left AV valve regurgitation
b) Subaortic stenosis
c) Residual ventricular level shunts
d) Complete heart block

12. D-transposition of the great vessels,a common cyanotic congenital anomaly, accounts for =5% of all congenital heart disease.In this anomaly, all the following are true EXCEPT

a) The systemic veins return to the right atrium
b) The pulmonary veins return to the left atrium
c) The connections between the atria and ventricles are normal
d) The aorta is posterior and to the right of the pulmonary

18. A 3-year-old male child develops hematoma and bruising of his right hand next day after falling on the ground; the mother stated that her child has a poor wound healing and a history of delayed umbilical separation during the neonatal period. Of the following, the MOST valuable test for this case is

a) Partial thromboplastin time
b) Prothrombin time
c) Thrombin time
d) Clot solubility test

19. A 6-month-old infant is brought to the ED because of poor feeding. The infant is listless but responds to pain. There are no palpable pulses, and the cardiac monitor shows a narrow complex tachycardia with a rate of 250. The child weighs 8 kg. Your next step should be:

a) Administer verapamil 0.1 mg/kg slow IV push.
b) Administer digoxin 0.02 mg/kg IV.
c) Cardiovert immediately with 16 J.
d) Cardiovert immediately with 8 J.

20. The most common clinical presentation in tuberous sclerosis is:

a) Shagreen patch
b) Seizures
c) Rhabdomyoma
d) Ash Leaf
e) Mental retardation

--------Good Luck------

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