

# IAP Neonatology Chapter

## IAP Neonatology Fellowship Exam Feb 2018

### Theory Paper 1

Time – 3 hours

Total Marks – 100

#### Attempt all questions

1. Write short notes on -
  - a. Discuss the etiology and diagnostic approach to a neonate with anemia (1.5 +1.5)
  - b. What are the indications for packed red cell transfusions in neonates?(2)
  - c. Discuss the adverse effects of red cell transfusions in neonates. (2)
  - d. What are the strategies to prevent red cell transfusions in preterm neonates? (3)
2. Write short notes on -
  - a. Describe the common clinical types of neonatal seizures based on semiology (4)
  - b. Mention the causes of seizures in neonates (3)
  - c. Describe an algorithmic approach to the acute treatment of neonatal seizures (3)
3. In short -
  - a. Discuss the important changes in the neonatal resuscitation guidelines 2015 (4)
  - b. What are the strategies to improve admission temperature in a preterm neonate? (4)
  - c. What are the indications for therapeutic hypothermia in a neonate with asphyxia? (2)
4.
  - a. Explain the risk factors and pathophysiology of necrotizing enterocolitis. (2+2)
  - b. What is the role of probiotics in preventing necrotizing Enterocolitis? (3)
  - c. Discuss the steps in setting up human milk bank. (3)
5.
  - a. Quality improvement initiative in NICU (4)
  - b. Steps to prevent ventilator associated pneumonia (2)
  - c. Antimicrobial stewardship in NICU (4)
6. What is the definition of EUGR ? Describe nutritional strategies in all three stages for EUGR prevention (early aggressive, growing care stage, post discharge stage) (2+8)
7. Write short note on-
  - a. Components of KMC and its benefits (3)
  - b. Adverse antenatal Doppler and possible neonatal outcomes (4)
  - c. Screening for congenital heart disease by oximetry (3)

Section II: Answer the following questions (20 x 1.5 =30)

1. Although the 11 year follow-up CAP trial study didn't not find a significant reduction in the combined rate of academic, motor and behavioral impairments, it did show
  - a. Caffeine therapy reduced the risk of motor impairment at 11 years of age
  - b. Caffeine therapy increased the risk of motor impairment at 11 years of age

- c. Caffeine therapy increased the risk of severe asthma at 11 years of age
- d. Caffeine therapy reduced the risk of visual impairment associated with Retinopathy of Prematurity at 11 years of age.

2. Compared with standard care, a new drug reduced the incidence of necrotizing enterocolitis from 10% to 5% among preterm very low birth weight newborns. Calculate the number needed to treat.

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3. A neonate born to a diabetic mother presents with hematuria, flank mass and hypertension. What is the likely diagnosis?

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4. What is the recommended position for placing an umbilical venous catheter based on vertebral levels ?

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5. Which is the dose, route and schedule of dexamethasone as an antenatal steroid?

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6. Which oral drug is used to treat hyperinsulinemic hypoglycemia?

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7. You are evaluating a neonate born through family h/o consanguinity, at 3 weeks age, with lethargy, vomiting, hypotonia and seizures. On examination, the neonate has an Erythematous exfoliative rash and alopecia. Which micronutrient supplementation is likely to markedly benefit this newborn?

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8. Which antenatal marker of lung growth is useful in predicting the prognosis in neonates with congenital diaphragmatic hernia?

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9. What are the components of congenital talipesequinovarus / club foot?

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10. Which type of intravenous lipid formulation may reduce the incidence of TPN associated cholestasis?

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11. A newborn with deep icterus clinically and serum bilirubin level of 30 mg% presents with arching, opisthotonus, seizures and retrocollis. Which part of the brain is most likely to be involved in this disease?

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12. What are the two most dreaded complications of intraventricular hemorrhage in preterm newborns which increase the chances of long term neurological damage?

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13. A neonate is subjected to routine pulse oximeter testing to rule out CHD. The father asks if a normal pulse oximetry screening is confirmative of absence of congenital heart disease. Name a least one type of CHD which may be missed by pulse oximetry screening.

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14. Which medication used to treat patent ductus arteriosus may sometimes be used prophylactically to prevent IVH?

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15. A neonate born at 28 weeks gestational age is detected to have Grade 2 intraventricular hemorrhage as per Volpe's classification on routine ultrasound screening performed at 48 hours. Can you describe the findings corresponding to the staging?

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16. The peripheral smear of newborn with ABO incompatibility is similar to which hemolytic disorder?

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17. In a preterm neonate born limp, what is the recommended  $FiO_2$  while starting positive pressure ventilation?

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18. Which is the drug of choice for pharmacological reversal of supraventricular tachycardia in newborns?

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19. What is the commonest organism responsible for bone and joint infections in neonates?

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20. What is the formula to calculate oxygenation index (OI)?

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