



IAP Neonatology Chapter

IAP Neonatology Fellowship Exam August 2019

Theory Paper 2

Time – 3 hours

Total Marks – 100

- **Attempt all questions.**
 - **Write in legible handwriting**
 - **Write to the point answers**
 - **Quote evidence/ studies wherever required**
1. A 5-day-old neonate is brought to the NICU with sudden onset of irritability, tachypnea and pallor. He was delivered vaginally at term without complications. Temperature is 37.0°C (98.6°F), pulse rate is 200/min, and respiratory rate of 72/min. On physical examination, auscultation of the chest suggests a grade 2/6 systolic ejection murmur that is heard best at the left upper sternal border. Femoral pulses are absent bilaterally, and the lower extremities appear somewhat cyanotic compared with the upper extremities. No other abnormalities are noted. (20 marks)
 - a) What is the likely diagnosis? Also, give at least 2 differential diagnoses. (5)
 - b) What is the emergency room management you would order? (5)
 - c) Classify and Discuss the approach to cyanotic Heart Disease in neonates in a flow diagram (10)

 2. A preterm 26 week baby boy born by emergency LSCS in view of sudden placental abruption without any antenatal steroids. Baby required extensive resuscitation at birth with APGAR scores of 3/4/5/7 at 1/5/10/15 minutes of age respectively. Baby was transferred to NICU and was given surfactant and kept on Mechanical ventilation. On Day 5 of life baby was given a trial of extubation which failed within 2 hours. Repeated attempts to extubate the baby have failed. Baby is now 35 days old (31 weeks) and is still on SIMV mode of ventilation. X-ray suggest scattered heterogeneous opacities all over the lung fields. (5 x 4 = 20 marks)
 - a) Outline the management of Broncho-pulmonary dysplasia (BPD).
 - b) What lung protective ventilatory strategies you'll adopt for such cases who are at high risk of developing Broncho-pulmonary dysplasia (BPD)?



- c) Discuss the pros and cons of early vs late use of steroids in such cases.
- d) Discuss how the long term Neurodevelopmental outcomes are affected by the presence of BPD and how would you counsel the parents in this regard
3. You are taking care of a baby in NICU who is now 28 days old. Baby was born at 30 weeks with birth weight 1200 grams. Currently, the baby is weighing 1600 grams and is on full orogastric feeds with expressed breast milk at 180 ml/kg/day. There are no ongoing medical issues and baby is kept only for routine preterm care. (5 x 4 = 20 marks)
- a) How will you assess readiness for discharge ?. What criteria need to be fulfilled before discharge ?
- b) What are the screening tests that you will perform prior to discharge ?
- c) What are the home care measures that you will discuss with the parents to help them take care of this baby at home.
- d) What will be your followup schedule for this baby and enumerate in brief about the assessments/interventions that would be done till 2 years.
4. A 12 days old preterm baby is transferred from another NICU to your NICU in view of lethargy, feeding intolerance and abdominal distension. Baby was born at 29 weeks weighing 1100 grams and was given CPAP initially for 72 hours. Feeds were commenced on day 2 and gradually graded up to full feeds on day 10. However, on day 12 problems were noticed and parents decided to shift baby to your NICU. Investigations done on day 12 prior to transport were Hb 11, WBC 4500, N54 N28, E1, Bands 11, platelets 80000/cmm. The baby was receiving meropenem and amikacin at referring hospital. (4X5 = 20 marks)
- a) What is your differential diagnosis and how you would you stabilise/manage this baby ?
- b) What investigations would you perform on this baby. What is the diagnostic accuracy of septic screen in late onset nosocomial infections ?
- c) What are the possible pathogens likely to cause sepsis in this baby. Define Multidrug resistant organisms (MDRO). Describe principles of management of MDRO sepsis management.
- d) Describe role of IVIG, colony stimulating factor in management of sepsis.
- e) What infection control practices you use in your NICU to reduce nosocomial infections?



5. A 4 days old preterm (29 weeks) neonate is on CPAP. The settings were: PEEP – 5 cm; FiO₂- 25%; Neonate was found to have tachycardia, wide pulse pressure on examination. The child also has intermittent apneas. (5X4 = 20 marks)
- What are the possibilities?
 - What are the criteria for hemodynamically significant PDA?
 - Discuss about management of PDA?
 - Write about the pros and cons of each drug with dosage? Quote evidence wherever necessary?

