Reconstitution Nursing Dosage Calculation Practice Problems

Medication calculation is a critical aspect of nursing practice. Accurate dosages are essential to ensure patient safety and effective treatment. This section will provide practice problems and solutions for reconstitution nursing dosage calculation problems.

Problem 1: Calculation of Drug Dosage

The recommended dose of Ampicillin is 100-200mg/kg/day divided q6h, and the nurse must ensure that the dose prescribed is within therapeutic range by calculating the minimum and maximum dosages.

Solution:
- First, convert the daily dose range into milligrams per kilogram (mg/kg).
- Minimum dosage: 100 mg/kg/day divided q6h
- Maximum dosage: 200 mg/kg/day divided q6h

Problem 2: Reconstitution of Solutions

Reconstitute 250mg/mL of Vancomycin and administer IM 1g/100mg/mL. Calculate the volume of sterile water to be added to the vial to achieve the desired concentration.

Solution:
- Desired concentration: 1g/100mg/mL
- Available concentration: 250mg/mL
- Volume calculation: (1g / 100mg/mL) * 250mg/mL = 2.5mL

Problem 3: Practice Questions

1. Add 2ml of diluent to yield 100 mg/1.2ml.
2. Ancef 250 mg. Add 2 ml of diluent to provide 130 mg/ml.
3. Solumederol 100 mg IM now. The vial reads Solumederol 100 mg.

Solution:
1. Volume calculation: (100 mg / 1.2ml) * 2ml = 166.67 mL
2. Volume calculation: (250 mg / 130 mg/ml) * 2 ml = 38.46 mL
3. Volume calculation: (100 mg / 100 mg) * 1 ml = 1 mL

Conclusion:
Reconstitution nursing dosage calculation problems require attention to detail and accuracy. By practicing with these problems, nurses can improve their ability to calculate correct dosages and reconstitute medications effectively.

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Page 1/1