Anti-infective Drug Use in Obstetrics - Part I

Examination

1. All drugs with a molecular weight less than _______ cross the placenta.
   a. 10 grams
   b. 1000 daltons
   c. 1 gram
   d. 2000 daltons
   e. 0.1 grams

2. The main determinant of the drug concentration in the embryo/fetus is
   a. lipid solubility
   b. protein binding
   c. the degree of ionization at physiologic pH
   d. the mother’s blood concentration
   e. the degree of ionization at physiologic pH

3. In man, the critical time for drug-induced congenital malformations is
   a. the 20 days prior to conception
   b. the first 20 days after conception
   c. about 20 to 55 days after conception
   d. about 55 to 100 days after conception
   e. about 34 to 69 days after conception

4. Reproduction testing in experimental animals has been required of all new drugs since
   a. 1966
   b. 1950
   c. 1975
   d. 1982
   e. 1994

5. The importance of animal reproductive data to human teratology can be appreciated by the fact that
   concordance in the type of anatomical defect has been demonstrated between humans and
   experimental animals for all human teratogens with the exception of
   a. clindamycin and rifampin
   b. lithium and tetracycline
   c. gentamicin and erythromycin
   d. phenytoin and vancomycin
   e. imipramine and tobramycin

6. If there is positive evidence that human fetal risk exists and this risk clearly outweighs any potential
   benefit from using the drug, the drug would be classified as
   a. Category A
   b. Category B
   c. Category C
   d. Category D
   e. Category X
7. Regarding the penicillins,
   a. all penicillins cross the human placenta to the embryo and fetus except ampicillin and penicillin G
   b. the concentration of penicillin in the mother is approximately double the concentration of the amniotic fluid and fetus.
   c. all penicillins are considered to be safe during human pregnancy and lactation
   d. large amounts of penicillins are found in human breast milk, usually at a level that is three times the maternal serum level.
   e. exposure of a nursing infant to penicillins has no real consequences.

8. Regarding the beta-lactamase inhibitors (clavulanate, sulbactam, and tazobactam) that may be combined with the penicillins, all of these agents are rated pregnancy risk factor ____ in combination with a penicillin drug.
   a. X
   b. D
   c. C
   d. B
   e. A

9. Regarding the cephalosporin antibiotics, all of the following are true EXCEPT
   a. they are considered safe to use during human pregnancy and lactation
   b. all of these agents are expected to cross the placenta to the embryo or fetus
   c. reproduction studies in animals (mice, rats, and rabbits) have found no evidence of impaired fertility or fetal harm with any of the cephalosporins
   d. as with penicillins, small amounts of cephalosporins are excreted into human breast milk
   e. although adverse effects in nursing infants may occur with the penicillins, this is not a problem for the cephalosporins

10. Only the parenteral aminoglycosides present a risk to the embryo or fetus. The oral aminoglycosides, such as _____ are poorly absorbed into the systemic circulation.
    a. neomycin and paromomycin
    b. amikacin and gentamicin
    c. netilmicin and gentamicin
    d. streptomycin and tobramycin
    e. tobramycin and vancomycin

11. The American College of Obstetricians and Gynecologists (ACOG) classifies kanamycin and streptomycin as contraindicated during pregnancy because of
    a. olfactory toxicity
    b. cardiac toxicity
    c. nephrotoxicity
    d. neurotoxicity
    e. ototoxicity

12. A drug interaction between gentamicin and ______ has been reported. This drug may be used in treating pregnant women with pre-eclampsia or preterm labor.
    a. phenytoin
    b. phenobarbital
    c. magnesium sulfate
    d. terbutaline
    e. ibuprofen

13. ACOG classifies all fluoroquinolones as contraindicated during gestation because of the lack of information for most agents and the potential for _____ observed in immature animals when given a fluoroquinolone directly.
a. joint abnormalities
b. CNS abnormalities
c. cardiac abnormalities
d. renal abnormalities
e. gastrointestinal abnormalities

14. The use of fluoroquinolones during lactation is not recommended because of
   a. carcinogenicity documented in humans
   b. the potential for arthropathy and phototoxicity
   c. the potential for sudden cardiac arrest
   d. nephrotoxicity and ototoxicity documented in humans
   e. the potential for neurotoxicity

15. Which macrolide is contraindicated during pregnancy because of the risk of maternal hepatotoxicity?
   a. erythromycin stearate
   b. erythromycin ethylsuccinate
   c. erythromycin estolate
   d. clarithromycin
   e. azithromycin

16. The two macrolide drugs that have been given a pregnancy risk factor rating of B because they have been studied the most and no evidence of teratogenicity or fetal toxicity has been observed in animals are
   a. dirithromycin and troleandomycin
   b. azithromycin and clarithromycin
   c. clarithromycin and troleandomycin
   d. azithromycin and erythromycin
   e. dirithromycin and clarithromycin

17. The most serious maternal toxicity(s) seen with the use of the tetracycline drugs is (are)
   a. acute fatty metamorphosis of the liver
   b. staining of the deciduous teeth
   c. yellow-gold staining of the fetal skeleton
   d. arthropathy of the joints
   e. nephrotoxicity

18. The mechanism of bone and tooth enamel staining that was seen with the use of tetracycline during pregnancy was related to
   a. a discoloration produced by the drug itself
   b. the potent chelating ability of the drug
   c. a carrier molecule that was administered with the drug
   d. the type of tetracycline used
   e. an interaction with magnesium sulfate

19. When teeth are affected by tetracycline,
   a. it is only a concern for deciduous teeth
   b. it is only a concern if used in the first trimester
   c. the teeth go through a catch-up phase after the exposure stops, so the long-term effect is clinically insignificant
   d. the discoloration is permanent because remodeling and calcium exchange do not occur after calcification is complete
   e. the permanent teeth are only affected if exposed prior to 5 to 6 months gestation

20. Cardiovascular collapse (gray baby syndrome) is a possible complication with ____ if administered to
the mother in the final stages of pregnancy.
a. erythromycin
b. aztreonam
c. oxytetracycline
d. ciprofloxacin
e. chloramphenicol