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Sample Article: Child Neurology

Citation:

Author: Bakian AV, Bilder DA, Korgenski EK, Bonkowsky JL.
Title: Autism spectrum disorder and neonatal serum magnesium levels in preterm infants.
Journal: Child Neurology Open
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Questions:

1) Which of the following infants born at an Intermountain Healthcare facility in Utah between 2002 and 2010 would not have been eligible for inclusion in the study described in this paper?

    a. A girl born at 26 weeks' gestation who required intubation and treatment with surfactant and antibiotics.
    b. A boy born at 30 weeks' gestation who was fed by gavage for two weeks because he was not a vigorous oral feeder.
    c. A girl born at 35 weeks' gestation to a mother whose medical record indicated she was enrolled in a methadone maintenance program during the pregnancy.
    d. A boy born at 36 weeks' gestation with tetralogy of Fallot, successfully palliated surgically at 15 months postnatal age.
    e. Twin girls born at 30 weeks' gestation with birthweights of 1300 and 1450 grams, respectively, to a mother who has a twin brother.

    Key: D

2) Some children included in this study were identified as having autism spectrum disorder by which of the following reporters?

    a. Biological mothers
    b. Obstetricians of record
    c. Study investigators
    d. Qualified medical providers
    e. Neuropsychological testers

    Key: D

3) A pregnant woman in labor is brought to the emergency department. She is carrying a boy who is 28 weeks along. Her first child is a four-year-old boy who has autism spectrum disorder. According to this paper, which of the following is the most appropriate counsel to provide the mother?

   a. If your baby is born now, he will have autism spectrum disorder like his brother.
   b. Magnesium may prevent cerebral palsy in premature infants, but it doesn't prevent autism spectrum disorder.
   c. Magnesium should be given to prevent your baby, likely to be born premature, from having autism spectrum disorder.
   d. Your serum magnesium levels will tell us how likely it is that your baby will have autism spectrum disorder.
   e. Intravenous magnesium will be given to your baby when he is born to protect his brain from injury.

   Key: B

4) According to this paper, which of the following groups of characteristics were factors that influenced the likelihood of newborns in this study going on to be diagnosed with autism spectrum disorder?

   a. Race, ethnicity, size for gestational age
   b. Mother's health insurance carrier, fasting blood glucose, income
   c. Birthweight, 5-minute Apgar score, gender
   d. Day 1 of life serum magnesium, maternal serum magnesium, 1-minute Apgar score
   e. Chromosomal configuration, heart anatomy, presence of hydrocephalus

   Key: C

5) A medical student asks which neurotransmitter pathway might be affected to produce the neuroprotective effects of magnesium. The best response would be which of the following neurotransmitters?

   a. Glutamate
   b. Gamma-amino-butyric acid (GABA)
   c. Norepinephrine
   d. Dopamine
   e. Acetylcholine

   Key: A