4.7 Eclampsia – Self-Test (15 min)

1. Define Eclampsia.
2. What are possible features of Eclampsia? Write down at least 6 features.
3. The medication most commonly recommended for the treatment of an eclamptic seizure is: (select one)
    a. Magnesium sulfate
    b. Dilantin
    c. Tegretol
    d. Phenobarbital
4. Theories for the pathogenesis of preeclampsia/eclampsia include all of the following, EXCEPT: (select one)
    a. Vitamin deficiency
    b. Abnormal placentation
    c. Poor maternal adaptation to cardiovascular changes
    d. Genetic factors
    e. Immune dysfunction

Self-Test – Answer Key

1. Eclampsia is the new onset of hypertension and either proteinuria (>300 mg/24 hrs in mild and >5000 mg/24 hrs in severe) or end-organ dysfunction after 20 weeks of gestation in a previously normotensive woman with seizure activity. Please note: Just as in any emergency, the patient's airway must be managed, but this is especially true in cases of eclampsia. Bite guards and means to protect the patient's tongue are crucial. Call for assistance if alone. Anti-seizure medication should be immediately called for and administered.
2. **Possible answers:**
    - Seizures
    - Cerebral edema and cerebrovascular accidents
    - Acute renal failure
    - Oliguria
    - Abruptio Placentae
    - Persistent blood pressure >160/110 mmHg
    - Headache
    - Visual disturbances (scotomata, blurred vision, blindness (rare))
    - RUQ pain
    - Fetal growth restriction
    - Intra-uterine fetal death (IUFD)
    - HELLP (or any combination of each, i.e. hemolysis and/or elevated liver enzymes, and or low platelets)

    Seizures are typically tonic/clonic in nature and can be brief to prolonged. Eclampsia can antepartum or within 72 hours postpartum. Atypical preeclampsia/eclampsia can occur up to several weeks postpartum.
    Cerebral edema is quite common in eclampsia. CVA can also occur and can be fatal. Appropriate imaging studies should be done if intracranial abnormalities are suspected.
    Acute renal failure can also occur and must be managed carefully.
    Oliguria is common and renally excreted medications should be adjusted if either oliguria or renal failure occur. To diagnose persistently elevated BP, the values must, technically, be taken in the sitting position, 6 hrs apart.
    The headache should be persistent and unrelieved by Tylenol/acetaminophen.
    Visual disturbances most commonly come in the form of scotomata.
    RUQ pain is due to hepatic edema and the stretching of glisson's capsule. This is a sign of potential liver rupture and is concerning.
    Fetal growth restriction shows the chronic nature of preeclampsia, i.e. that pathophysiologic changes have occurred long before the clinical and laboratory signs appear (elevated BP's, headache, abnormal liver function tests, low platelets).
    Women with preeclampsia have higher vascular resting tone, which translates into lower blood flow to the placenta and, in some cases, fetal growth restriction.

The exact mechanism of intrauterine fetal death is not known, but it is more common in women with preeclampsia.
HELLP syndrome (H=hemolysis, EL=elevated liver enzymes, LP=Low Platelets) can be present in its entirety or with only some of the features, i.e. only hemolysis or elevated LFT's (Liver Function Tests), or low platelets, or some combination of these. If a pregnant woman's BP's are in the "mild" preeclampsia range and she develops HELLP, she is then categorized as having severe preeclampsia.

3. (not provided)

4. (not provided)