Quiz #1

1. While on rounds in the medical unit you come upon a 47 y.o. patient (normal renal function) with CAP that does not appear to be responding well to Augmentin 750mg po BID. The attending physician wants to change the dosing regimen in order to maximize the pharmacodynamic characteristics of the drug. You suggest:

   a) Decreasing the dosage to 500mg – this would decrease the peak concentration and the AUC, neither of which is related to the most important PD parameter for beta-lactams (T>MIC)
   b) Changing the interval to QD – this would, in theory, decrease the time above the MIC
c) Changing the interval to TID – maximize T>MIC for beta-lactams by giving the drug more often
d) Leaving the regimen the same – if not responding, a change in therapy should be made
e) Both A and B.

2. The attending physician suspects that the above patient may have pneumococcal pneumonia. The physician shows you the microbiology report and asks for your verification. Which of the following reports would best validate the physician’s suspicion: Which of the following reports would best validate the physician’s suspicion:

   a) Gram +, aerobic, catalase +, coagulase + – S. aureus
   b) Gram -, aerobic, glucose fermenter – Enterobacteriaciae, Pasturella spp., Vibrio spp., etc.
c) Gram +, anaerobic, catalase -, β-hemolytic
d) Gram +, aerobic, catalase +, α-hemolytic – S. pneumoniae
e) None of the above.

3. During rounds on the bone marrow transplant unit, the team visits a patient (immunocompromised) who has developed bacteremia. According to the microbiology lab, the pathogen is a Gram-negative, non-fermenter. You suspect:

   a) S. maltophilia
   b) P. aeruginosa
c) Acinetobacter spp.
d) Both A and B.
e) All of the above. – These are the big three aerobic, G(-), non-fermenting rods; common nosocomial infections in immunocompromised patients; often multidrug resistant

4. ESBL,s are very potent enzymes that cause resistance to third generation cephalosporins and aztreonam. ESBL’s are commonly seen in which of the two following organisms:

   a) S. pneumoniae
   b) K. pneumoniae
c) E. coli
d) Both A and B.
e) Both A and C.
f) Both B and C. – ESBL’s are found in G(-) organisms (A is a G(+) organism).

5. Draw a line between the microorganism and the identifying microbiological characteristic: (Each pair must be correct to receive credit):

   Haemophilus influenzae ----------------------- TINY G(-) rods
   Staphylococcus aureus ------------------------“grape-like clusters”
   Neisseria gonorrhoeae ------------------------ intracellular G(-) diplococci