Recarbrio™ (imipenem/cilastatin/relebactam) – New drug approval

- On July 17, 2019, the FDA announced the approval of Merck's Recarbrio (imipenem/cilastatin/relebactam), in patients 18 years of age and older who have limited or no alternative treatment options, for the treatment of:
    - Complicated urinary tract infections (cUTI), including pyelonephritis, caused by the following susceptible gram-negative microorganisms: *Enterobacter cloacae*, *Escherichia coli*, *Klebsiella aerogenes*, *Klebsiella pneumoniae*, and *Pseudomonas aeruginosa.*
    - Complicated intra-abdominal infections (cIAI) caused by the following susceptible gram-negative microorganisms: Bacteroides caccae, Bacteroides fragilis, Bacteroides ovatus, Bacteroides stercoris, Bacteroides thetaiotaomicron, Bacteroides uniformis, Bacteroides vulgatus, Citrobacter freundii, Enterobacter cloacae, Escherichia coli, Fusobacterium nucleatum, Klebsiella aerogenes, Klebsiella oxytoca, Klebsiella pneumoniae, Parabacteroides distasonis, and Pseudomonas aeruginosa.
- Recarbrio is a three-drug combination injection containing imipenem/cilastatin, a previously FDA-approved antibiotic, and relebactam, a new beta-lactamase inhibitor.
- The efficacy of Recarbrio was supported in part by the previous findings of the efficacy and safety of imipenem/cilastatin for the treatment of cIAI and cUTI. The contribution of relebactam to Recarbrio was primarily established *in vitro* and in animal models of infection.
    - Imipenem/cilastatin plus relebactam was studied in cIAI and cUTI including pyelonephritis in randomized, blinded, active-controlled trials. These trials provided only limited efficacy and safety information.
- Warnings and precautions for Recarbrio include hypersensitivity reactions, seizures and other central nervous system adverse reactions, increased seizure potential due to interaction with valproic acid, *Clostridium difficile*-associated diarrhea, and development of drug-resistant bacteria.
- The most frequently reported adverse reactions (≥ 2%) with Recarbrio use were diarrhea, nausea, headache, vomiting, increased alanine aminotransferase, increased aspartate aminotransferase, phlebitis/infusion site reactions, pyrexia, and hypertension.
- The recommended dosage of Recarbrio is 1.25 grams (imipenem 500 mg, cilastatin 500 mg, and relebactam 250 mg) administered by intravenous (IV) infusion over 30 minutes every 6 hours in patients 18 years of age and older with creatinine clearance of 90 mL/min or greater.
    - The severity and location of infection, as well as clinical response should guide the duration of therapy. The recommended duration of treatment with Recarbrio is 4 days to 14 days.
    - Refer to the Recarbrio drug label for additional dosing and administration recommendations.
- Merck plans to launch Recarbrio later this year. Recarbrio will be available as a dry powder for constitution in a single-dose vial containing imipenem 500 mg, cilastatin 500 mg, and relebactam 250 mg.