Pivya™ (pivmecillinam) – New drug approval

- On April 24, 2024, the FDA announced the approval of Utility Therapeutics' Pivya (pivmecillinam), for the treatment of female patients 18 years of age and older with uncomplicated urinary tract infections (UTI) caused by susceptible isolates of *Escherichia coli* (*E. coli*), *Proteus mirabilis*, and *Staphylococcus saprophyticus*.

- Uncomplicated UTIs are bacterial infections of the bladder in females with no structural abnormalities of their urinary tract. Approximately one-half of all women experience at least one UTI in their lifetime.

- Pivya is a penicillin class antibacterial.

- The efficacy of Pivya was established in three controlled studies comparing different Pivya dosing regimens to placebo (Trial 1), to another oral antibacterial drug (Trial 2), or to ibuprofen (Trial 4) in patients with uncomplicated UTI. The primary endpoint was the composite response rate, which included clinical cure (resolution of the symptoms of the uncomplicated UTI that were present in patients at trial entry and no new symptoms) and microbiological response (demonstration that the bacteria cultured from patients' urine at trial entry was reduced).

    - In Trial 1, 62% of patients achieved the composite response with Pivya vs. 10% with placebo (difference 52, 95% CI: 41, 62).
    - In Trial 2, 72% of patients achieved the composite response with Pivya vs. 76% of patients with the comparator antibacterial drug (difference -4, 95% CI: -16, 7).
    - In Trial 4, 66% of patients achieved the composite response with Pivya vs. 22% of patients with ibuprofen (difference 44, 95% CI: 31, 57).

- Pivya is contraindicated in patients:

    - Who have experienced a serious hypersensitivity reaction (eg, anaphylaxis or Stevens-Johnson syndrome) to Pivya or other beta-lactam antibacterial drugs (eg, penicillins and cephalosporins).
    - With primary or secondary carnitine deficiency resulting from inherited disorders of mitochondrial fatty acid oxidation and carnitine metabolism, and other inborn errors of metabolism.
    - Suffering from porphyria as pivmecillinam has been associated with acute attacks of porphyria.

- Warnings and precautions for Pivya include hypersensitivity reactions; severe cutaneous adverse reactions; carnitine depletion; acute porphyria; *Clostridioides difficile*-associated diarrhea; development of drug-resistant bacteria; and interference with newborn screening test.

- The most common adverse reactions (≥ 2%) with Pivya use were nausea and diarrhea.

- The recommended dose of Pivya is one 185 mg tablet orally 3 times a day for 3 to 7 days as clinically indicated.

- Utility Therapeutics' launch plans for Pivya are pending. Pivya will be available as a 185 mg tablet.