Asparlas™ (calaspargase pegol-mknl) – New orphan drug approval

- On December 20, 2018, the FDA approved Servier Pharma's Asparlas (calaspargase pegol-mknl), as a component of a multi-agent chemotherapeutic regimen for the treatment of acute lymphoblastic leukemia (ALL) in pediatric and young adult patients age 1 month to 21 years.

- ALL is a form of leukemia that can progress quickly, and if not treated, can be fatal within a few months. According to the American Cancer Society, there were about 5,960 new cases and 1,470 deaths from ALL in 2018.

    — The risk for developing ALL is highest in children younger than 5 years of age. The risk then declines slowly until the mid-20s, and begins to rise again slowly after age 50.

- Asparlas contains an asparagine specific enzyme and the pharmacological effect of Asparlas is thought to be based on selective killing of leukemic cells due to depletion of plasma L-asparagine.

    — Oncaspar® (pegaspargase) is another asparagine specific enzyme approved for treatment of ALL.

- The efficacy of Asparlas for the treatment of ALL was based on a demonstration of the achievement and maintenance of nadir serum asparaginase activity (NSAA) above the level of 0.1 U/mL. The pharmacokinetics of Asparlas were studied when used in combination with multiagent chemotherapy in 124 patients with B cell lineage ALL.

    — The results showed that 123 (99%, 95% CI: 96, 100) of the 124 patients maintained NSAA > 0.1 U/mL at weeks 6, 12, 18, 24 and 30.

- Asparlas is contraindicated in patients with a history of serious hypersensitivity reactions to pegylated L-asparaginase, serious thrombosis during L-asparaginase therapy, serious pancreatitis related to previous L-asparaginase treatment, or serious hemorrhagic events during previous L-asparaginase therapy; and in patients with severe hepatic impairment.

- Warnings and precautions of Asparlas include hypersensitivity, pancreatitis, thrombosis, hemorrhage, and hepatotoxicity.

- The most common grade > 3 adverse reactions (≥ 10%) with Asparlas use were elevated transaminase, bilirubin increased, pancreatitis, and abnormal clotting studies.

- The recommended dose of Asparlas is 2,500 units/m^2 given intravenously no more frequently than every 21 days.

- Servier Pharma's launch plans for Asparlas are pending. Asparlas will be available as a 3,750 units/5 mL (750 units/mL) single-dose vial for injection.