OPTUMRx®

Gamifant® (emapalumab-lzsg) – New orphan drug approval

- On November 20, 2018, the FDA announced the approval of Sobi and Novimmune's Gamifant (emapalumab-lzsg), for the treatment of adult and pediatric (newborn and older) patients with primary hemophagocytic lymphohistiocytosis (HLH) with refractory, recurrent, or progressive disease or intolerance with conventional HLH therapy.

- Primary HLH is an ultra-rare, rapidly progressive, often-fatal syndrome of hyperinflammation in which massive hyperproduction of interferon gamma (IFNy) is thought to drive immune system hyperactivation, ultimately leading to organ failures. Signs and symptoms include fevers, swelling of the liver and spleen, severe low red and white blood cell counts, bleeding disorders, infections, neurological symptoms, organ dysfunction and organ failure.

    - It is estimated that fewer than 100 cases of primary HLH are diagnosed each year in the U.S.
    - The immediate goal of treatment is to quickly control the hyperinflammation and to prepare for hematopoietic stem cell transplant (HSCT). The current conventional induction therapies used prior to transplant include steroids and chemotherapy.

- Gamifant is a monoclonal antibody that binds to and neutralizes IFNy.

    - Gamifant is the first FDA-approved treatment for primary HLH.

- The efficacy of Gamifant was evaluated in a single-arm study in 27 pediatric patients with suspected or confirmed primary HLH with either refractory, recurrent, or progressive disease during conventional HLH therapy or who were intolerant of conventional HLH therapy. The efficacy of Gamifant was based on overall response rate (ORR) at the end of treatment.

    - The ORR was 63% (95% CI: 0.42, 0.81; p = 0.013).
    - Of the 27 patients included in the trial, 19 (70%) were able to proceed to HSCT.

- Warnings and precautions of Gamifant include infections, increased risk of infection with use of live vaccines, and infusion-related reactions.

- The most common adverse reactions (≥ 20%) with Gamifant use were infections, hypertension, infusion-related reactions, and pyrexia.

- The recommended starting dose of Gamifant is 1 mg/kg given as an intravenous infusion over one hour twice per week (every three to four days). Doses subsequent to the initial dose may be increased based on clinical and laboratory criteria.

    - Prior to Gamifant administration, prophylaxis for herpes zoster, *Pneumocystis jirovecii*, and for fungal infections should be administered and dexamethasone should be given.
    - During therapy with Gamifant, monitoring should occur for tuberculosis, adenovirus, Epstein Barr virus, and cytomegalovirus every 2 weeks and as clinically indicated.
    - Gamifant should be administered until HSCT is performed or unacceptable toxicity.
    - Gamifant should be discontinued when a patient no longer requires therapy for the treatment of HLH.

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- Sobi plans to launch Gamifant in the first quarter of 2019. Gamifant will be available as a preservative-free solution in 10 mg/2 mL and 50 mg/10 mL single-dose vials.