Amtagvi™ (lifileucel) – New orphan drug approval

- On February 16, 2024, the FDA announced the approval of Iovance Biotherapeutics' Amtagvi (lifileucel), for the treatment of adult patients with unresectable or metastatic melanoma previously treated with a PD-1 blocking antibody, and if BRAF V600 mutation positive, a BRAF inhibitor with or without a MEK inhibitor.
    - This indication is approved under accelerated approval based on objective response rate (ORR). Continued approval for this indication may be contingent upon verification and description of clinical benefit in a confirmatory trial(s).
- Melanoma is a form of skin cancer that is often caused by exposure to ultraviolet light, which can come from sunlight or indoor tanning. Although melanomas only represent approximately 1% of all skin cancers, they account for a significant number of cancer-related deaths.
- Amtagvi is a tumor-derived autologous T cell immunotherapy composed of a patient's own T cells. A portion of the patient's tumor tissue is removed during a surgical procedure prior to treatment. The patients' T cells are separated from the tumor tissue, further manufactured and then returned to the same patient as a single dose for infusion.
    - This is the first FDA-approved tumor-derived T cell immunotherapy.
- The efficacy of Amtagvi was established in a multicohort, open-label, single-arm study in patients with unresectable or metastatic melanoma who had previously been treated with at least one systemic therapy, including a PD-1 blocking antibody, and if BRAF V600 mutation-positive, a BRAF inhibitor or BRAF inhibitor with MEK inhibitor. Efficacy was established based on objective response rate (ORR) and duration of response (DOR).
    - Among the 73 patients treated with Amtagvi at the recommended dose, the ORR was 31.5% (95% CI: 21.1, 43.4).
    - The median DOR was not reached (95% CI: 4.1, not reached).
- Amtagvi carries a boxed warning for treatment-related mortality; prolonged severe cytopenia; severe infection; and cardiopulmonary and renal impairment.
- The most common adverse reactions (≥ 20%) non-laboratory adverse reactions in order of decreasing frequency with Amtagvi use were chills, pyrexia, fatigue, tachycardia, diarrhea, febrile neutropenia, edema, rash, hypotension, alopecia, infection, hypoxia, and dyspnea.
- The recommended dose of Amtagvi is provided as a single dose for infusion containing a suspension of tumor-derived T cells. The dose is supplied in 1 to 4 patient-specific intravenous (IV) infusion bag(s) in individual protective metal cassettes. Each dose contains 7.5×10^9 to 72×10^9 viable cells.
    - Amtagvi should be administered in an inpatient hospital setting under the supervision of a physician experienced in the use of anticancer agents. An intensive care facility and specialists skilled in cardiopulmonary or intensive care medicine must be available.
    - Refer to the Amtagvi drug label for complete administration recommendations.
- Iovance Biotherapeutics' launch plans for Amtagvi are pending.