Supplemental Approvals

Generic Name (Trade Nameâ€"Company)	**Uses**/Notes
June 14, 2018	
Pembrolizumab	FDA granted accelerated approval of pembrolizumab to treat patients with cancer whose unresectable or metastatic solid tumors have a specific genetic feature (biomarker), referred to as microsatellite instability-high (MSI-H) or mismatch repair deficient (dMMR). This is the first time the agency has approved a cancer treatment based on a common biomarker rather than the location in the body where the tumor originated. This indication covers patients with solid tumors that have progressed following prior treatment and who have no satisfactory alternative treatment options and patients with colorectal cancer that has progressed following treatment with certain chemotherapy drugs. MSI-H and dMMR tumors contain abnormalities that affect the proper repair of DNA inside the cell. Tumors with these biomarkers are most commonly found in colorectal, endometrial, and gastrointestinal cancers but also less commonly appear in cancers arising in the breast, prostate, bladder, thyroid gland, and other places. Approximately 5% of patients with metastatic colorectal cancer have MSI-H or dMMR tumors. Pembrolizumab works by targeting the PD-1/PD-L1 cellular pathway. By blocking this pathway, the drug may help the body's immune system fight the cancer cells. FDA previously approved the agent to treat certain patients with metastatic melanoma, metastatic non–small cell lung cancer, recurrent or metastatic head and neck cancer, refractory classical Hodgkin lymphoma, and urothelial carcinoma. Safety and efficacy of pembrolizumab for this indication were studied in patients with MSI-H or dMMR solid tumors who were enrolled in one of five uncontrolled, single-arm clinical trials. In some trials, patients were required to have MSI-H or dMMR cancers, while in other trials, a subgroup of patients were identified as having MSI-H or dMMR cancers by testing tumor samples after treatment began. A total of 15 cancer types were identified among 149

(Keytruda—Merck)

FDA approves first cancer treatment for any solid tumor with a specific biomarker

patients enrolled across these five clinical trials. The most common cancers were colorectal, endometrial, and other gastrointestinal cancers. Approval for this indication was based on the percentage of patients who experienced complete or partial shrinkage of their tumors (overall response rate) and for how long (durability of response). Of the 149 patients who received pembrolizumab in the trials, 39.6% had a complete or partial response. For 78% of those patients, the response lasted for 6 months or more.

Common adverse effects include fatigue, pruritus, diarrhea, decreased appetite, rash, fever, cough, difficulty breathing, musculoskeletal pain, constipation, and nausea.

Pembrolizumab can cause serious conditions, known as immune-mediated adverse effects, including inflammation of healthy organs such as the lungs (pneumonitis), colon (colitis), liver (hepatitis), endocrine glands (endocrinopathies), and kidneys (nephritis). Complications or death related to allogeneic hematopoietic stem cell transplantation after using pembrolizumab has occurred.

Patients who experience severe or life-threatening infusion-related reactions should stop taking pembrolizumab. Women who are pregnant or breastfeeding should not take pembrolizumab because it may cause harm to a developing fetus or newborn baby.

Safety and effectiveness of the agent in pediatric patients with MSI-H central nervous system cancers have not been established.

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