PRIME THERAPEUTICS®

Specialty Pipeline **MONTHLY UPDATE**

Critical updates in an ever-changing environment

April 2021

NEW DRUG INFORMATION

- **Ponvory™ (ponesimod):** The United States Food and Drug Administration (FDA) has approved Janssen's Ponvory to treat adults with relapsing forms of multiple sclerosis (MS), to include clinically isolated syndrome, relapsing-remitting disease and active secondary progressive disease. Ponvory is a once-daily oral selective sphingosine-1-phosphate receptor 1 (S1P1) modulator. A Phase 3 clinical trial demonstrated Ponvory had superior efficacy in significantly reducing annual relapses by 30.5% compared to Sanofi Genzyme's Aubagio® (teriflunomide) in patients with relapsing MS. Over the study period, 71% of patients treated with Ponvory had no confirmed relapses, compared to 61% in the teriflunomide group. Ponvory was also superior to teriflunomide in reducing the number of new gadolinium-enhancing (GdE) T1 lesions and the number of new or enlarging T2 lesions by 59% and 56%, respectively.[1] Additionally, Ponvory prevented disabilities from worsening in most patients. Nine in 10 Ponvory treated patients did not have worsening three-month disability. Ponvory has launch with a wholesale acquisition cost (WAC) of $8,084 per 30-day supply.
- **Abecma™ (idecabtagene vicleucel; ide-cel):** The FDA approved Bristol-Myers Squibb and bluebird bio's Abecma as the first B-cell maturation antigen (BCMA)-directed chimeric antigen receptor (CAR) T-cell immunotherapy for the treatment of adult patients with relapsed or refractory multiple myeloma after four or more prior lines of therapy, including an immunomodulatory agent, a proteasome inhibitor, and an anti-CD38 monoclonal antibody. Abecma is a personalized immune cell therapy approved as a one-time infusion with a recommended dose range of 300 to 460 x 106 CAR-positive T cells. Abecma had an overall response rate (ORR) of 72% and 28% of patients achieved a stringent complete response (sCR).[2] The median duration of response was 11 months for all responders and 19 months for those patients who achieved sCR. Abecma has launched and will be available at certified treatment centers with a WAC of $419,500 per treatment. A Risk Evaluation and Mitigation Strategy (REMS) program will be implemented

NEW INDICATIONS

- **Praluent® (alirocumab):** The FDA granted approval of Regeneron's Praluent to include homozygous familial hypercholesterolemia (HoFH). HoFH is the rare and more severe, form of the inherited lipid disorder. Praluent is already approved for the more common heterozygous familial hypercholesterolemia (HeFH).
- **Tyvaso® (treprostinil):** The FDA granted approval of United Therapeutics' Tyvaso for the treatment of pulmonary hypertension associated with interstitial lung disease to improve exercise ability.
- **Vyxeos® (cytarabine and daunorubicin):** Jazz Pharmaceuticals' Vyxeos indication was expanded by the FDA to include treatment of children ages one year and older with newly diagnosed therapy-related acute myeloid leukemia (t-AML) or AML with myelodysplasia-related changes.
- **Keytruda® (pembrolizumab):** The FDA expanded Merck's Keytruda's indication to be used in combination with platinum and fluoropyrimidine-based chemotherapy for first-line treatment of patients with locally advanced unresectable or metastatic carcinoma of the esophagus and gastroesophageal junction (GEJ).
- **Yescarta® (axicabtagene ciloleucel):** The FDA has expanded Kite Pharm's Yescarta indication to include the treatment of relapsed or refractory follicular lymphoma and marginal zone lymphoma after two or more prior lines of systemic therapy.
- **Lorbrena® (lorlatinib):** The FDA approved Pfizer's Lorbrena for treatment of previously untreated advanced ALK-positive non-small cell lung cancer (NSCLC).

APRIL NEWS

- "On top of Zolgensma's less-than-stellar forecast, Novartis has had nothing but headaches since it picked up AveXis for $8.7 billion back in April 2018. In late 2019, the FDA accused Novartis of covering manipulated data from the AveXis unit, which the drugmaker then turned around and blamed two of the unit's leaders — brothers Brian and Allan Kaspar. Both were fired that same month. This isn't the first time Novartis has walked away from a Colorado plant. In 2017, the drugmaker unveiled plans to shutter its Broomfield operations and cut 450 jobs over two years due to declining sales. In 2019, that location was sold to Mile High Labs, a Colorado-based CBD company."[3]

- "In a stunning revelation, FibroGen admitted to presenting roxadustat data manipulated to make the anemia drug look safer than it is. The announcement sent FibroGen shares tumbling and prompted analysts to reassess the potential first-in-class therapy ahead of an FDA decision. The company changed parameters used to analyze heart safety data for roxadustat in patients with anemia from chronic kidney disease, FibroGen acknowledged Tuesday. The false criteria yielded more flattering data, which FibroGen and partner AstraZeneca disclosed to the public in late 2019. The hazard ratios for those three populations between roxadustat and Epogen/Procrit were 1.08, 0.96 and 0.7, respectively, according to data unveiled at an American Society of Nephrology event in November 2019. Those ratios measure the relative risks of the two drugs; higher numbers indicate greater risk for roxadustat. Now we know those ratios were based on stratification factors altered after the data were unblinded to FibroGen. The actual numbers by pre-specified standards were 1.1, 1.02 and 0.83, respectively, suggesting higher relative risks for roxadustat."[4]

- "FDA advisers who voted against the approval of Biogen's Alzheimer's disease drug aducanumab have reiterated their objections in a JAMA article. The article restates the case against aducanumab ahead of a June decision by the FDA on whether to approve the controversial, closely watched medicine. Caleb Alexander, M.D., Scott Emerson, M.D., Ph.D., and Aaron Kesselheim, M.D, all spoke out strongly against the approval of aducanumab on the basis of current evidence at a FDA advisory committee meeting late last year. Perhaps most memorably, Emerson said the "analysis seems to be subject to the Texas sharpshooter fallacy, a name for the joke of someone first firing a shotgun at a barn and then painting a target around the bullet holes." The JAMA article makes the same point in more technical language, arguing that post hoc analyses of the aducanumab clinical trials risk "inadvertently selecting data precisely because those data were consistent with the outcomes that were hoped for."[5]

REFERENCES

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