CENTER FOR HEALTHCARE INNOVATION AND PATIENT OUTCOMES RESEARCH

Samford University
McWhorter School of Pharmacy

NEW DRUG FAX SHEET

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This issue of *New Drug FAX Sheet* briefly reviews topics that include new drug approvals, new drug formulations, and new drug indications. If you need further information, please contact the Center for Healthcare Innovation and Patient Outcomes Research (CHIPOR) at chipor@samford.edu.

NEW DRUG APPROVALS

Lorlatinib (Lorbrena, Pfizer)
Pharmacology: Kinase inhibitor.
Indication: Treatment of patients with anaplastic lymphoma kinase (ALK)-positive metastatic non-small cell lung cancer whose disease has progressed with other therapies (e.g., crizotinib, alectinib, or ceritinib).
Adverse Drug Reactions: Edema, peripheral neuropathy, cognitive effectis, dyspnea, fatigue, weight gain, arthralgia, mood effects, and diarrhea.
Dose: The recommended dosage is 100 mg orally once daily.
Formulation: Tablets; 25 or 100 mg.
Warnings/Contraindications: Concomitant strong CYP3A4 inducers increase the risk of serious hepatotoxicity; central nervous system effects.
Notes: Avoid use with strong and moderate 3A4 inducers. Avoid concomitant use with strong CYP3A inhibitors; or reduce lolatinib dose if concomitant use must be avoided.

Pegfilgrastim-CBQV (Udenyca, Coherus Biosciences, Inc)
Pharmacology: Leukocyte growth factor.
Indication: Decrease the incidence of infection (e.g., ferile neutropenia) in patients receiving myelosuppressive anticancer medications.
Adverse Drug Reactions: Bone pain and pain in the extremities.
Dose: The recommended dose is 6 mg administered subcutaneously once per chemotherapy cycle. Pediatric patients have a weight based dosing regimen.
Formulation: 6 mg/0.6mL in a single-dose prefilled syringe.
Warnings/Contraindications: Patients with a history of allergic reactions to human granulocyte colony-stimulating factors (e.g., pegfilgrastim or filgrastim). Other warnings include fatal splenic rupture; acute respiratory distress syndrome (ARDS), fatal sickle cell crisis, and glomerulonephritis.
Notes: This product should not be used for mobilization of peripheral blood progenitor cells for hematopoietic stem cell transplantation.

Revefenacin (Yupelri, Theravance Biopharma)
Pharmacology: Anticholinergic.
Indication: Treatment of patients with chronic obstructive pulmonary disease (COPD).
Adverse Drug Reactions: Cough, nasopharyngitis, upper respiratory tract infection, headache, and back pain.
Dose: The dose is one 175 mcg vial (3 mL) once daily administered via standard jet nebulizer.
Formulation: Inhalation solution.
Warnings/Contraindications: Worsening of narrow-angle glaucoma may occur. Should not be used to treat acute symptoms.
Notes: May interact with other anticholinergic medications. Coadministration of revefenacin and OATP1B1 inhibitors (e.g., rifampicin, cyclosporine) is not recommended.

Rifamycin (Aemcolo, Cosmo Technologies LTD)
Pharmacology: Rifamycin antibacterial.
Indication: Treatment of travelers' diarrhea caused by noninvasive strains of *Escherichia coli* in adults.
Adverse Drug Reactions: Headache and constipation.
Dose: The recommended dose is 388 mg (two tablets) orally twice daily for three days.
Formulation: Delayed-released tablets: 194 mg.
Warnings/Contraindications: There is a risk of persistent or worsening diarrhea; *Clostridium difficile*-associated diarrhea.
Notes: Rifamycin should be used to treat/prevent infections that are strongly suspected to be caused by the bacteria.

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Emapalumab-LZSG (Gamifant, Novimmune SA)
Pharmacology: Interferon gamma blocking antibody.
Indication: Treatment of adult and pediatric patients with primary hemophagocytic lymphohistiocytosis (HLH) with refractory, recurrent or progressive disease or intolerance to conventional HLH therapy.
Adverse Drug Reactions: Infections, hypertension, infusion-related reactions, and pyrexia.
Dose: The recommended starting dose is 1 mg/kg administered via intravenous infusion over 1 hour twice per week.
Formulation: Injection containing 10 mg/2mL and 50 mg/10 mL solutions in a single-dose vial.
Warnings/Contraindications: Infection, do not administer with live vaccines, and infusion-related reactions.
Notes: Dexamethasone should be administered with emapalumab.

Glasdegib (Daurismo, Pfizer)
Pharmacology: Hedgehog pathway inhibitor.
Indication: Treatment of newly-diagnosed acute myeloid leukemia (AML) in adult patients ≥75 years in combination with low-dose cytarabine.
Adverse Drug Reactions: Anemia, fatigue, hemorrhage, febrile neutropenia, musculoskeletal pain, nausea, edema, thrombocytopenia, dyspnea, decreased appetite, dysgeusia, mucositis, constipation, and rash.
Dose: The recommended dose is 100 mg orally, once daily.
Formulation: Tablets: 100mg, 25 mg.
Warnings/Contraindications: Patients should not donate blood or blood products for at least 30 days after the last dose.
Notes: QTc prolongation may occur with glasdegib therapy.

Larotrectinib (Vitrakvi, Loxo Oncology, Inc)
Pharmacology: Kinase inhibitor.
Indication: Treatment of solid tumors for a variety of different indications.
Adverse Drug Reactions: Fatigue, nausea, dizziness, vomiting, increased AST, cough, increased ALT, constipation, and diarrhea.
Dose: The recommended dose in adult and pediatric patients with BSA of at least 1 m^2 is 100 mg orally twice daily. The recommended dose for patients with a BSA <1 m^2 is 100 mg/m^2 orally twice daily.
Formulation: Capsules: 25 mg, 100 mg; oral solution: 20 mg/mL.
Warnings/Contraindications: Neurotoxicity, hepatotoxicity, and embryo-fetal toxicity.
Notes: The dosage should be reduced in patients with hepatic impairment.

Amifampridine (Firdapse, Catalyst Pharma Inc)
Pharmacology: Potassium channel blocker.
Indication: Lambert-Eaton myasthenic syndrome (LEMS) in adults.
Adverse Drug Reactions: Paresthesia, upper respiratory tract infection, abdominal pain, nausea, diarrhea, headache, elevated liver enzymes, back pain, hypertension, and muscle spasms.
Dose: the recommended starting dosage is 15 mg to 30 mg daily taken orally in divided doses (3-4 times daily).
Formulation: Tablets: 10 mg.
Warnings/Contraindications: Use is contraindicated in patients with a history of seizures.
Notes: May increase seizure threshold in patients with an increased risk of seizures. Additive cholinergic effects may be observed with concomitant cholinergic drugs.

Gilteritinib (Xospata, Astellas)
Pharmacology: Kinase inhibitor.
Indication: Treatment of adult patients with relapsed or refractory AML with a FLT3 mutation.
Adverse Drug Reactions: Myalgia/arthralgia, transaminase increase, fatigue/malaise, fever, noninfectious diarrhea, dyspnea, edema, rash, pneumonia, nausea, stomatitis, cough, headache, hypotension, dizziness, and vomiting.
Dose: The recommended dose is 120 mg orally once daily.
Formulation: Tablet: 40 mg.
Warnings/Contraindications: Posterior reversible encephalopathy syndrome; prolonged QT interval; pancreatitis.
Notes: Do not combine with strong CYP3A4 inhibitors.

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Rituximab-ABBS (Truxima, Celltrion Inc)
Pharmacology: CD20-directed cytolytic antibody.
Indication: Treatment of adult patient with Non-Hodgkin's Lymphoma (NHL).
Adverse Drug Reactions: Infusion reactions, fever, lymphopenia, chills, infection, and asthenia.
Dose: The dose for NHL is 375 mg/m^2.
Formulation: Injection: 100 mg/10mL and 500 mg/50 mL solution in single-dose vials.
Warnings/Contraindications: Tumor lysis syndrome, infection, cardiac adverse reactions, renal toxicity, bowel obstruction and performation, embroyo-fetal toxicity.
Notes: Do not administer live virus vaccinations prior to or during treatment with rituximab.

NEW INDICATIONS

Pembrolizumab (Keytruda, Merck)
Pharmacology: Anti-PD-1 therapy.
New Indication: Treatment of patients with hepatocellular carcinoma who have been previously treated with sorafenib.
Dose: 200 mg every 3 weeks until acceptable toxicity or confirmed disease progression.

Elotuzumab (Empliciti, Bristol Myers Squib)
Pharmacology: SLAMF7-directed immunostimulatory antibody.
New Indication: Relapased or refractory multiple myeloma.
Dose: In combination with pomalidomide and dexamethasone: 10 mg/kg administered intravenously every week for the first 2 cycles and 20 mg/kg every 4 weeks thereafter until disease progression or unacceptable toxicity.

Eltrombopag (Promacta, Novartis)
Pharmacology: Thromboepoietin receptor agonist.
New Indication: First-line therapy for severe aplastic anemia.
Dose: Initial dose is 2.5 mg/kg (in pediatric patients aged 2-5 years), 75 mg (pediatric patients aged 6-11years), or 150 mg for patients aged 12 years and older with standard immunosuppressive therapy.

Brentuximab (Adcetris, Seattle Genetics, Inc.)
Pharmacology: CD30-directed antibody-drug conjugate.
New Indication: Combination therapy in adults with previously untreated systemic aplastic large cell lymphoma or other CD30-expressing peripheral T-cell lymphomas.
Dose: Combination therapy with chemotherapy for untreated patients is 1.2 mg/kg up to a maximum of 120 mg every 2 weeks for a maximum of 12 doses.

Ventoclax (Venclexta, Genetech)
Pharmacology: BCL-2 inhibitor.
New Indication: Newly diagnosed with acute myeloid leukemia or those who are ineligible for intensive induction chemotherapy.
Dose: The recommended dose is 20 mg for week 1 and goes up to 400 mg for weeks 5 and beyond.

Tocilizumab (Actemra, Genetech)
Pharmacology: Interleukin-6 receptor antagonist.
New Indication: Moderate-to-severe rheumatoid arthritis in patients with an inadequate response to one or more DMARDs.
Dose: Weight based dosing.

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