Ivabradine (Corlanor)

Manufacturer: Amgen, Thousand Oaks, California

Date of Approval: April 15, 2015

Indication: Corlanor is indicated to reduce the risk of hospitalization for worsening heart failure in patients with stable, symptomatic chronic heart failure with a left ventricular ejection fraction of 35% or less who are in sinus rhythm with a resting heart rate of 70 beats per minute (bpm) or more and either are on maximally tolerated doses of beta blockers or have a contraindication to beta-blocker use.

It is contraindicated in patients with these conditions:

- Acute decompensated heart failure
- Blood pressure less than 90/50 mm Hg
- Sick sinus syndrome, sinoatrial block, or third-degree atrioventricular block, unless a functioning demand pacemaker is present
- Resting heart rate less than 60 bpm prior to treatment
- Severe hepatic impairment
- Pacemaker dependence (heart rate maintained exclusively by the pacemaker)
- Concomitant use of strong cytochrome P450 3A4 (CYP3A4) inhibitors

Drug Class: Hyperpolarization-activated cyclic nucleotide-gated (HCN) channel blocker

Uniqueness of Drug: Ivabradine blocks the HCN channel responsible for the cardiac pacemaker If current, which regulates heart rate. Ivabradine can also inhibit the retinal current Ih, which is involved in curtailing retinal responses to bright light stimuli.

Warnings and Precautions:

Fetal toxicity. Advise females to use effective contraception when taking ivabradine.

Atrial fibrillation (AF). Regularly monitor cardiac rhythm. Discontinue ivabradine if AF develops.

Bradycardia and conduction disturbances. Avoid use of ivabradine in patients with second-degree atrioventricular block unless a functioning demand pacemaker is present.

Dosage and Administration: The recommended starting dose of ivabradine is 5 mg twice daily with meals. Patients should be assessed after two weeks and their doses adjusted to achieve a resting heart rate between 50 and 60 bpm. The maximum dose is 7.5 mg twice daily.

Commentary: Heart failure is a serious condition that affects approximately 5.7 million patients in the U.S. and is associated with poor outcomes and disability. With prevalence expected to increase over the next 20 years, there is a great need for efficacious therapies. Corlanor, the first medication approved for heart failure in more than a decade, was evaluated through the FDA’s priority review program and was granted a fast-track designation.

Sources: www.fda.gov, www.amgen.com, Corlanor prescribing information

Anthrax Immune Globulin Intravenous (Human) (Anthrasil)

Manufacturer: Cangene Corporation, Winnipeg, Canada

Date of Approval: March 24, 2015

Indication: Anthrasil is indicated for treatment of inhalational anthrax in adult and pediatric patients in combination with appropriate antibacterial drugs.

It is contraindicated in:

- Patients with a history of anaphylaxis or prior severe systemic reaction associated with the parenteral administration of this or other human immune globulin preparations.
- Immunoglobulin A (IgA)-deficient patients with antibodies against IgA and a history of IgA hypersensitivity.

Drug Class: Purified human immune globulin G (IgG) containing polyclonal antibodies

Uniqueness of Drug: Polyclonal IgG is a passive immunizing agent that neutralizes anthrax toxin by binding to its protective antigen (PA) to prevent PA-mediated cellular entry of anthrax edema factor and lethal factor. Administration should take place in combination with appropriate antibiotic therapy because this product by itself is not known to have direct antibacterial activity against anthrax bacteria, which otherwise may continue to grow and produce anthrax toxins.

Warnings and Precautions:

Hypersensitivity reactions. Monitor all patients for signs and symptoms of acute allergic reactions during and following the Anthrasil infusion. In case of severe hypersensitivity reactions, discharge the administration of the agent immediately and administer appropriate emergency care.

Interference with blood glucose testing. Due to the potential for falsely elevated glucose readings (or falsely normal glucose readings when hypoglycemia is present), only use testing systems that are glucose-specific to test or monitor blood glucose levels in patients receiving this agent.

Thrombosis. Weigh the potential risks and benefits of Anthrasil against those of alternative therapies for all patients for whom administration is being considered. In patients with risk factors where the benefits of the agent’s administration outweigh the potential risks of thrombosis, administer it at the minimum rate of infusion practicable. Ensure adequate hydration in patients before administration. Monitor for signs and symptoms of thrombosis.

Acute renal dysfunction/failure. Assess renal function, including measurement of blood urea nitrogen (BUN) and serum creatinine, before the initial infusion of Anthrasil and at appropriate intervals thereafter. If renal function deteriorates, consider discontinuing the agent.

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Infusion rate precautions. Closely monitor and carefully observe patients and their vital signs for any symptoms throughout the infusion period and immediately following an infusion.

Hemolysis. Monitor recipients for clinical signs and symptoms of hemolysis. If signs and/or symptoms of hemolysis or a significant drop in hemoglobin or hematocrit have been observed after infusion, perform additional confirmatory laboratory testing.

Aseptic meningitis syndrome (AMS). Conduct a detailed neurological examination in patients exhibiting AMS symptoms and signs, including cerebrospinal fluid studies, to rule out other causes of meningitis.

Monitor laboratory tests. Assess renal function, including measurement of BUN and serum creatinine, before the initial infusion of Anthrasil and at appropriate intervals thereafter. Consider baseline assessment of blood viscosity in patients at risk for hyperviscosity, including those with cryoglobulinemia/markedly high triacylglycerols (triglycerides), or monoclonal gammapathies. If signs and/or symptoms of hemolysis are present after an infusion of this agent, perform appropriate laboratory testing for confirmation.

Interference with laboratory testing. Components of Anthrasil may interfere with some glucose testing, serological testing, and urinalysis.

Transfusion-related acute lung injury (TRALI). Monitor recipients for pulmonary adverse reactions. If TRALI is suspected, perform tests for the presence of anti–human leukocyte antigen and anti–neutrophil antibodies in the product.

Transmission of infectious agents from human plasma. A risk of transmitting blood-borne infectious agents exists with the use of Anthrasil.

Dosage and Administration: The initial dose in adults in combination with appropriate antimicrobial therapy is 420 units (seven vials); an initial dose of 840 units (14 vials) may be considered depending on the clinical status of the patient.

Commentary: Inhalational anthrax is a rare disease caused by inhaling spores of the bacterium Bacillus anthracis. Once inhaled, the bacteria replicate within the body and produce toxins causing massive and irreversible tissue injury and death. Karen Midthun, MD, Director of the Food and Drug Administration (FDA) Center for Biologics Evaluation and Research, noted that Anthrasil will be stored in the U.S. Strategic National Stockpile to facilitate its availability in response to an anthrax emergency.

Source: www.fda.gov, Anthrasil prescribing information

Glatiramer Acetate (Glatopa)

Manufacturer: Sandoz, Holzkirchen, Germany

Date of Approval: April 16, 2015

Indication: Glatopa is indicated for treatment of patients with relapsing forms of multiple sclerosis (MS). It is contraindicated in patients with known hypersensitivity to glatiramer acetate or mannitol.

Drug Class: Major histocompatibility complex (MHC) class II modulator

Uniqueness of Drug: The mechanism(s) by which glatiramer acetate exerts its effects in MS patients are not fully understood. However, it is thought to act by modifying immune processes that are believed to be responsible for the pathogenesis of MS.

Warnings and Precautions:

Immediate post-injection reaction. Symptoms are typically transient and self-limiting and do not require treatment; however, emergency medical care may be required for certain patients.

Chest pain. Pain is usually transient, often not associated with other symptoms, and appears to have no clinical sequelae.

Lipoatrophy and skin necrosis. Lipoatrophy may occur at various times after treatment onset (sometimes after several months) and is thought to be permanent. There is no known therapy for lipoatrophy. To assist in possibly minimizing these events, the patient should be advised to follow proper injection technique and to rotate injection sites with each injection.

Potential effects on immune response. Because glatiramer acetate injection is an antigenic material, it is possible that its use may lead to the induction of host responses that are untoward, but systematic surveillance for these effects has not been undertaken.

Dosage and Administration: The recommended dose is 20 mg/mL administered once per day.

Commentary: Glatopa marks a major milestone because it is the first generic medication approved for relapsing forms of MS. This drug will be substitutable for Teva’s top-selling product, Copaxone. Before the FDA granted approval, additional information was reviewed to ensure that the generic product was as safe and effective as the brand product.

Sources: www.fda.gov, www.novartis.com