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United States Pompe Community Update, August 1, 2014

Genzyme is pleased to provide an update to the Pompe Community regarding the recent United States (U.S.) Food and Drug Administration's (FDA) approval of an expanded label for Lumizyme® (alglucosidase alfa) to include all patients with Pompe disease.

For the last several years there have been two Genzyme products in the U.S. for the treatment of Pompe disease - Myozyme® (alglucosidase alfa, produced in 160 L bioreactors) and Lumizyme (produced in 4000 L bioreactors). Previously, Lumizyme was indicated for use in late-onset patients 8 years of age and older who did not have cardiac hypertrophy.

In January 2014, Genzyme submitted a Supplemental Biologics License Application (sBLA) to the FDA in support of a label expansion for Lumizyme (alglucosidase alfa). The purpose of the application was to expand the indication for Lumizyme to permit its use in all Pompe patients.

On August 1, 2014, the U.S. Food and Drug Administration (FDA) approved a supplement to expand the indication for Lumizyme. The expanded Lumizyme label is based on data that included biochemical analysis as well as clinical data from an investigator sponsored trial in Taiwan in infantile-onset patients. Additional supportive data was included from the ADVANCE trial of patients 12 months and older previously treated with Myozyme and switched to Lumizyme as part of the trial. This data demonstrated that alglucosidase alfa 4000L (Lumizyme) is comparable to alglucosidase alfa 160L (Myozyme®). Lumizyme is now indicated for patients with Pompe disease. There is no limitation as to age and phenotype.

Information about the ADVANCE Clinical Trial

Based on the approval of the Lumizyme label expansion, which allows one sustainable treatment option in the United States for all patients with Pompe disease, regardless of age or phenotype, we are able to end the ADVANCE trial and transition all participants to commercial therapy. We expect that this trial closure will begin mid-September 2014 and last through November 2014. Genzyme will work with the trial sites to help to ensure no interruption in therapy during the transition period to the commercial product for those patients enrolled in the ADVANCE trial. We cannot express our gratitude enough to the families of the children who participated in this trial and are very pleased that treatment can now be provided via commercial therapy.

Information for all Patients

- **If you are currently receiving Lumizyme**, there is nothing that you need to do to continue to receive treatment. If you have questions about the Lumizyme expanded label, please speak with your physician. For the complete Lumizyme label, visit www.lumizyme.com. Please note Genzyme is no longer required to maintain the Lumizyme REMS [Lumizyme Alglucosidase Alfa Control and Education (ACE) Program®]

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Information for all Patients (Continued)

- **Patients enrolled in any other Genzyme trial,** except for the ADVANCE study, will not be impacted by the label expansion at this time.

- **Currently receiving Myozyme** are not required to take any action.

- **Newly diagnosed patients in the United States of any age** who are not yet on therapy will be able to access Lumizyme via regular commercial channels. Treating physicians can work with Genzyme directly to support this process.

- **Patients receiving therapy outside of the United States will not experience any changes to their treatment regimen.** It is only in the U.S. that Genzyme has had two products available for the treatment of Pompe disease. All Pompe patients outside of the United States receive Myozyme produced at the 4000 L manufacturing scale, which is comparable to Lumizyme in the United States.

We understand that members of the U.S. Pompe community may have questions about their specific treatment plan. We encourage anyone with questions to reach out to their physician or health care facility directly for information. Patients with additional questions are encouraged to contact Genzyme Case Management at 1-800-745-4447, option 3. In addition, the US patient associations, the Acid Maltase Deficiency Association (AMDA) and the United Pompe Foundation (UPF), are available as resources.

We at Genzyme want to thank the U.S. Pompe Community for its support. Genzyme will continue to provide timely and sustainable access to treatment for all patients with Pompe.

INDICATION

LUMIZYME® (alglucosidase alfa) is a hydrolytic lysosomal glycogen-specific enzyme indicated for patients with Pompe disease (acid α-glucosidase (GAA) deficiency).

IMPORTANT SAFETY INFORMATION

WARNING: RISK OF ANAPHYLAXIS, HYPERSENSITIVITY AND IMMUNE-MEDIATED REACTIONS, and RISK OF CARDIORESPIRATORY FAILURE

See full prescribing information for complete boxed warning.

Life-threatening anaphylactic reactions and severe hypersensitivity reactions, presenting as respiratory distress, hypoxia, apnea, dyspnea, bradycardia, tachycardia, bronchospasm, throat tightness, hypotension, angioedema (including tongue or lip swelling, periorbital edema, and face edema), and urticaria, have occurred in some patients during and after alglucosidase alfa infusions. Immune-mediated reactions presenting as proteinuria, nephrotic syndrome, and necrotizing skin lesions have occurred in some patients following alglucosidase alfa treatment. Closely observe patients during and after alglucosidase alfa administration and be prepared to manage anaphylaxis and hypersensitivity reactions. Inform patients of the

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WARNINGS AND PRECAUTIONS

Anaphylaxis and Hypersensitivity Reactions: Life-threatening anaphylaxis and hypersensitivity reactions have been observed in some patients during and after treatment with alglucosidase alfa. If anaphylaxis or severe hypersensitivity reactions occur, immediately discontinue infusion and institute appropriate medical treatment.

Immune-Mediated Reactions: Monitor patients for the development of systemic immune-mediated reactions involving skin and other organs.

Risk of Acute Cardiorespiratory Failure: Patients with compromised cardiac or respiratory function may be at risk of acute cardiorespiratory failure. Caution should be exercised when administering alglucosidase alfa to patients susceptible to fluid volume overload.

Risk of Cardiac Arrhythmia and Sudden Cardiac Death during General Anesthesia for Central Venous Catheter Placement: Caution should be used when administering general anesthesia for the placement of a central venous catheter intended for alglucosidase alfa infusion.

Appropriate medical support and monitoring measures should be available during infusion.

ADVERSE REACTIONS

The most frequently reported adverse reactions (≥ 5%) in clinical trials were hypersensitivity reactions and included: anaphylaxis, rash, pyrexia, flushing/feeling hot, urticaria, headache, hyperhidrosis, nausea, cough, decreased oxygen saturation, tachycardia, tachypnea, chest discomfort, dizziness, muscle twitching, agitation, cyanosis, erythema, hypertension/increased blood pressure, pallor, rigors, tremor, vomiting, fatigue, and myalgia (6.1).

Sincerely,

Keith Alkek
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