

New data at ERS showed Xenpozyme® (olipudase alfa) improved respiratory functions in adults with ASMD

Paris, September 14, 2023. New data presented in Milan at the European Respiratory Society (ERS) International Congress demonstrated that Xenpozyme® (olipudase alfa) significantly improved pulmonary function in adults with acid sphingomyelinase deficiency (ASMD), providing positive disease modification across four critical domains of interstitial lung disease – a group of disorders that can progressively scar lung tissue and eventually affect a person’s ability to breathe.

Additional data at the congress highlight the role that artificial intelligence could play in decreasing diagnosis delay of ASMD. Many ASMD patients endure years of suffering from disease complications before receiving an accurate diagnosis. Using electronic health records of patients with unexplained interstitial lung disease, researchers applied a machine learning derived algorithm to identify high-risk patients for ASMD diagnosis.

Francesco Bonella, MD, PhD

Head of the Center for Interstitial and Rare Lung Diseases and Professor of Medicine at the Ruhrlandlinik University Hospital, Essen, Germany

“For patients with ASMD, respiratory disease most commonly manifests as interstitial lung disease, which is associated with respiratory failure and higher infection risk – a major contributor to patient mortality. In this analysis, we evaluated the effect of olipudase alfa on respiratory outcomes, and our findings showed that treatment with olipudase alfa provided sustained and progressive improvement in lung function, substantially modifying respiratory deterioration by addressing the underlying enzyme deficiency in ASMD.”

In individuals with ASMD, a deficiency in acid sphingomyelinase—an enzyme that allows for the breakdown of a fatty substance called sphingomyelin—leads to lifelong accumulation of sphingomyelin in cells throughout the body which can damage vital organs, including the lungs. According to newly developed consensus clinical guidelines for ASMD, pulmonary dysfunction is a key clinical characteristic of ASMD caused by the accumulation of sphingomyelin throughout the respiratory system.

Alaa Hamed, MD, MPH, MBA

Global Head of Medical Affairs, Rare Diseases, Sanofi

“Our data at the congress illustrate the many difficulties people with ASMD face – from the exhaustive search for answers and diagnosis to the physical symptoms that impact daily life, including shortness of breath, fatigue, and respiratory infections. We believe the data are encouraging and demonstrate our ongoing commitment to improving diagnosis and long-term care for those living with this rare genetic disease.”

Xenpozyme is an enzyme replacement therapy designed to replace deficient or defective acid sphingomyelinase. In 2022, Xenpozyme became the first and only approved therapy for ASMD when approved in Japan, soon followed by a string of approvals by other regulatory agencies, including the European Medicines Agency (EMA) and the US Food & Drug Administration (FDA).

Xenpozyme significantly improved lung function in adult patients with ASMD

The Phase 2 ASCEND trial evaluated 36 adults with ASMD, excluding those with neurological disease, to receive either Xenpozyme or placebo. Following the primary analysis period which spanned 52 weeks, patients continued for up to two years in the open-label extension trial to assess the long-term efficacy and safety of Xenpozyme.

These data from a post-hoc analysis of the primary analysis and open-label extension showed that Xenpozyme significantly improved respiratory function across four critical domains of interstitial lung disease, including pulmonary imaging as measured by clearance of ground glass opacities, gas exchange as measured by diffusion capacity of the lungs for carbon monoxide (DLco), lung mechanics as measured by forced vital capacity (FVC), and exercise capacity as measured by the maximum rate of oxygen (VO₂) used during exercise.

Lung high-resolution computed tomography (HRCT) ground glass appearance score

- Patients who received Xenpozyme in the primary analysis experienced a -0.51 decrease in mean value HRCT score. Of those, patients continuing Xenpozyme for up to two years in the extension trial experienced a further mean decrease of -0.04.

Percent predicted DLco

- The percent predicted DLco mean increase was 10.69% for patients receiving Xenpozyme in the primary analysis. Of those, patients continuing Xenpozyme for up to two years in the open-label extension experienced an additional mean increase of 4.94%.

Percent predicted FVC

- The percent predicted FVC mean increase was 5.78% for patients receiving Xenpozyme in the primary analysis. Of those, patients continuing Xenpozyme for up to two years in the extension trial experienced an additional mean increase of 1.15%.

Percent predicted VO₂

- The percent predicted VO₂ mean increase was 4.65% for patients receiving Xenpozyme in the primary analysis. Of those, patients continuing Xenpozyme for up to two years in the open-label extension experienced an additional mean increase of 1.81%.

Patients who switched from placebo to Xenpozyme following the primary analysis period also experienced improvements in HRCT score, percent predicted DLco, percent predicted FVC, and percent predicted VO₂.

Overall, nearly all treatment-related adverse events (99%) were mild or moderate, with one serious treatment-related adverse event, which was extrasystoles in a patient with previously documented cardiomyopathy. The most frequently reported adverse events were headache and transient transaminase elevations (i.e., increased levels of liver enzymes). No patient discontinued treatment due to adverse events.

About ASMD

ASMD, historically known as Niemann-Pick disease types A, A/B, and B, is an extremely rare, progressive genetic disease with significant morbidity and mortality, especially among infants and children. ASMD represents a spectrum of disease, with two types that may represent opposite ends of a continuum referred to as ASMD type A and ASMD type B. ASMD type A/B is an intermediate form that includes varying degrees of central nervous system (CNS) involvement. Many pediatric patients will not survive to adulthood. Signs and symptoms of ASMD may include enlarged spleen or liver, difficulty breathing, lung infections, and unusual bruising or bleeding, among other disease manifestations.

About Xenpozyme (olipudase alfa)

Xenpozyme® (olipudase alfa) is an enzyme replacement therapy designed to replace deficient or defective acid sphingomyelinase. Xenpozyme has been evaluated in pediatric and adult patients to treat non-CNS manifestations of ASMD type A/B and ASMD type B. Xenpozyme has not been studied in patients with ASMD type A.

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