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New Data Show Majority of Patients with aHUS Experienced Systemic Multi-Organ Complications Prior to Treatment

— Thrombotic Microangiopathy and Kidney Function Improved with Soliris in Pediatric Patients with aHUS —

— Data Supporting Need to Consistently Test High-Risk Patients for PNH and Data from Treatment of Pediatric Patients with PNH Also Presented at EHA Annual Meeting —

CHESHIRE, Conn.--(BUSINESS WIRE)-- Alexion Pharmaceuticals (Nasdaq: ALXN) today announced the presentation of data that underscore the critical need for testing patients at high risk for paroxysmal nocturnal hemoglobinuria (PNH) and new data on the potentially life-threatening, systemic complications in patients with atypical hemolytic uremic syndrome (aHUS). A retrospective analysis of 30 pediatric and adult patients with aHUS showed that the majority of patients experienced severe complications of the disease across multiple organs, despite receiving supportive care, including plasma exchange or plasma infusion. These data underscore the risk for sudden and potentially fatal systemic complications of aHUS.[1] In a separate analysis of 19 pediatric patients with aHUS, Soliris® (eculizumab) significantly reduced thrombotic microangiopathy, or TMA (the formation of blood clots in small blood vessels throughout the body), leading to improved kidney function and eliminating the need for dialysis in half of patients who previously required it before starting on Soliris therapy.[2] These data were presented at the 17th Congress of the European Hematology Association (EHA), being held in Amsterdam on June 14-17.

"The research presented at EHA confirms the significant and potentially fatal risks of both PNH and aHUS, two debilitating, ultra-rare and life-threatening disorders caused by chronic uncontrolled complement activation, and the urgent need for an accurate diagnosis and rapid treatment in these patients," said Leonard Bell, M.D., Chief Executive Officer of Alexion.

Systemic Multi-Organ Complications Common in Patients with aHUS

In a poster session on Friday, June 15, researchers presented retrospective data from an analysis of 30 pediatric and adult patients with aHUS prior to receiving Soliris. All 30 patients (100%) showed evidence of kidney impairment. Extra-renal, systemic organ complications were reported in 63% of patients (19 of 30), and extra-renal thrombi were reported in 37% of patients (11 of 30).[1] These complications spanned the cardiovascular (47% of patients), gastrointestinal (37%) and neurological (20%) systems, and were similarly reported in aHUS patients with or without identified genetic complement mutation.[1]

"While aHUS often has a devastating impact on the kidneys, the TMA process that defines aHUS can also cause progressive and sudden damage across multiple organs, including heart attack, stroke, pancreatitis, deep vein thrombosis and seizures," said Craig B. Langman, M.D., the Isaac A Abt MD Professor of Kidney Diseases, Head of Kidney Diseases, Feinberg School of Medicine, Northwestern University. "Evidence of TMA or progressive systemic organ involvement should prompt high suspicion of aHUS as a clinical diagnosis, even in the absence of kidney failure."

Pediatric Data Shows Consistent Results with Prospective Trials in Adult and Adolescent Patients with aHUS

In an oral presentation on Sunday, June 17, researchers presented an analysis of retrospective data from 19 pediatric patients (< 18 years of age) with aHUS who received Soliris therapy. In this analysis, which is also summarized in part in the Soliris product label, treatment with Soliris inhibited uncontrolled complement activation in all evaluable patients, inhibited complement-mediated TMA, and demonstrated platelet count normalization in 89% of patients (17 of 19). Soliris also reduced the burden of TMA interventions, as demonstrated by a reduced need for plasma exchange/plasma infusion (PE/PI) in all patients who had previously received it. Kidney function was also markedly improved with Soliris treatment, eliminating the need for dialysis in half of patients who previously required it (4 of 8 patients), and no new dialysis was required in any pediatric patient.[2] The most common adverse events reported were pyrexia, diarrhea, vomiting, upper respiratory tract infection, cough, vomiting, nasal congestion, and tachycardia. Efficacy and safety outcomes were similar across all pediatric age groups with Soliris treatment.[2]

"The efficacy and safety outcomes of Soliris in pediatric patients with aHUS are consistent with the prospective, controlled trials of adult and adolescent patients with aHUS," commented Dr. Ramon Vilalta, Hospital Vall d'Hebron in Barcelona, Spain who presented the data. "These data support the role of Soliris as the only approved treatment for aHUS patients of any age."

Support for Testing High-Risk Patients for PNH

In a poster session on June 16, the need to test and monitor high-risk patients for PNH was confirmed by results of an analysis of 7,699 patients whose blood cells were screened for a PNH clone using high-sensitivity flow cytometry (HSFC), according to the recommendations by the International Clinical Cytometry Society (ICCS). In the analysis, which was previously presented at the American Society of Hematology (ASH) annual meeting in December 2011, ICD-9 Diagnostic Codes were used to identify patients who had clinical indications for PNH testing in accordance with the ICCS guidelines.[3] The analysis found that PNH clones greater than 0.01% were detected in 26% of patients with an ICD-9 diagnosis of aplastic anemia (AA), as well as in 23% of patients with hemolytic anemia (including patients with known PNH), 13% of patients with hemoglobinuria and 6% of patients with hemolysis.[3] In addition, among patients with bone marrow failure syndromes other than AA, 5% of patients with unexplained cytopenia, 6% of patients with myelodysplastic syndrome, and 3% of patients with anemia (unspecified or in chronic illness) tested positive for a PNH clone. In addition, the need to monitor patients with small PNH clones was confirmed as 50% of patients with PNH clone sizes between 0.1%-10% showed variation in clone size during follow-up studies.[3]

"Patients in high-risk populations for PNH should be consistently tested and monitored based on the ICCS recommendations to ensure accurate diagnosis and early intervention," said lead investigator Mayur K. Movalia, M.D., Pathology, Dahl-Chase Diagnostic Services, Bangor, Maine.

Multicenter Study Found Soliris Reduced LDH in Pediatric Patients with PNH

In a poster session on June 16, researchers presented data from a 12-week, open-label multicenter study of Soliris in children and adolescents (ages 2 to 17 years) with paroxysmal nocturnal hemoglobinuria (PNH).[4] The study, which was previously reported at the ASH 2011 annual meeting, showed that Soliris treatment led to a rapid and sustained reduction in LDH levels, from a mean of 1,020 U/L at baseline to within normal range (275/U/L) by the second week of treatment.[4] The safety and adverse event profile for Soliris was consistent with that reported in adult Phase 3 PNH clinical trials.[4]

About aHUS

aHUS is a chronic, ultra-rare, and life-threatening disease in which a genetic deficiency in one or more complement regulatory genes causes chronic uncontrolled complement activation, resulting in complement-mediated thrombotic microangiopathy (TMA), the formation of blood clots in small blood vessels throughout the body.[5,6] Permanent, uncontrolled complement activation in aHUS causes a life-long risk for TMA, which leads to sudden, catastrophic, and life-threatening damage to the kidney, brain, heart, and other vital organs, and premature death.[6.7] Sixty-five percent of all patients with aHUS die, require kidney dialysis or have permanent kidney damage within the first year after diagnosis despite plasma exchange or plasma infusion (PE/PI).[8,9] The majority of patients with aHUS who receive a kidney transplant commonly experience subsequent systemic TMA, resulting in a 90% transplant failure rate.[10]

aHUS affects both children and adults. In a large group of aHUS patients, 60% were first diagnosed at younger than 18 years of age.[11] Complement-mediated TMA also causes reduction in platelet count (thrombocytopenia) and red blood cell destruction (hemolysis). While mutations have been identified in at least ten different complement regulatory genes, mutations are not identified in 30-50% of patients with a confirmed diagnosis of aHUS.[11]

About PNH

PNH is an ultra-rare blood disorder in which chronic, uncontrolled activation of complement, a component of the normal immune system, results in hemolysis (destruction of the patient's red blood cells). PNH strikes people of all ages, with an average age of onset in the early 30s.[12] Approximately 10 percent of all patients first develop symptoms at 21 years of age or younger.[13] PNH develops without warning and can occur in men and women of all races, backgrounds and ages. PNH often goes unrecognized, with delays in diagnosis ranging from one to more than 10 years.[14] In the period of time before Soliris was available, it had been estimated that approximately one-third of patients with PNH did not survive more than five years from the time of diagnosis.[13] PNH has been identified more commonly among patients with disorders of the bone marrow, including aplastic anemia (AA) and myelodysplastic syndromes (MDS).[15,16,17] In patients with thrombosis of unknown origin, PNH may be an underlying cause.[12]

About Soliris

Soliris is a first-in-class terminal complement inhibitor developed from the laboratory through regulatory approval and commercialization by Alexion. Soliris is approved in the US, European Union, Japan and other countries as the first and only treatment for patients with paroxysmal nocturnal hemoglobinuria (PNH), a debilitating, ultra-rare and life-threatening blood disorder, characterized by complement-mediated hemolysis (destruction of red blood cells). Soliris is also approved in the US

and the European Union as the first and only treatment for patients with atypical Hemolytic Uremic Syndrome (aHUS), a debilitating, ultra-rare and life-threatening genetic disorder characterized by complement-mediated thrombotic microangiopathy, or TMA (blood clots in small vessels). Soliris is indicated to inhibit complement-mediated TMA. The effectiveness of Soliris in aHUS is based on the effects on TMA and renal function. Prospective clinical trials in additional patients are ongoing to confirm the benefit of Soliris in patients with aHUS. Soliris is not indicated for the treatment of patients with Shiga toxin *E. coli* related hemolytic uremic syndrome (STEC-HUS). Alexion's breakthrough approach in complement inhibition has received the pharmaceutical industry's highest honors: the 2008 Prix Galien USA Award for Best Biotechnology Product with broad implications for future biomedical research and the 2009 Prix Galien France Award in the category of Drugs for Rare Diseases. More information including the full prescribing information on Soliris is available at www.soliris.net.

Important Safety Information

The U.S. product label for Soliris includes a boxed warning: "Life-threatening and fatal meningococcal infections have occurred in patients treated with Soliris. Meningococcal infection may become rapidly life-threatening or fatal if not recognized and treated early. Comply with the most current Advisory Committee on Immunization Practices (ACIP) recommendations for meningococcal vaccination in patients with complement deficiencies. Immunize patients with a meningococcal vaccine at least 2 weeks prior to administering the first dose of Soliris, unless the risks of delaying Soliris therapy outweigh the risk of developing a meningococcal infection. (See Serious Meningococcal Infections (5.1) for additional guidance on the management of meningococcal infection.) Monitor patients for early signs of meningococcal infections and evaluate immediately if infection is suspected. Soliris is available only through a restricted program under a Risk Evaluation and Mitigation Strategy (REMS). Under the Soliris REMS, prescribers must enroll in the program (5.2). Enrollment in the Soliris REMS program and additional information are available by telephone: 1-888-soliris (1-888-765-4747)."

In patients with PNH, the most frequently reported adverse events observed with Soliris treatment in clinical studies were headache, nasopharyngitis (runny nose), back pain and nausea. Soliris treatment of patients with PNH should not alter anticoagulant management because the effect of withdrawal of anticoagulant therapy during Soliris treatment has not been established. In patients with aHUS, the most frequently reported adverse events observed with Soliris treatment in clinical studies were hypertension, upper respiratory tract infection, diarrhea, headache, anemia, vomiting, nausea, urinary tract infection, and leukopenia. Please see full prescribing information for Soliris, including boxed WARNING regarding risk of serious meningococcal infection.

About Alexion

Alexion Pharmaceuticals, Inc. is a biopharmaceutical company focused on serving patients with severe and ultra-rare disorders through the innovation, development and commercialization of life-transforming therapeutic products. Alexion is the global leader in complement inhibition and has developed and markets Soliris® (eculizumab) as a treatment for patients with PNH and aHUS, two debilitating, ultra-rare and life-threatening disorders caused by chronic uncontrolled complement activation. Soliris is currently approved in more than 40 countries for the treatment of PNH, and in the United States and the European Union for the treatment of aHUS. Alexion is evaluating other potential indications for Soliris and is developing four other highly innovative biotechnology product candidates. This press release and further information about Alexion Pharmaceuticals, Inc. can be found at: www.alexionpharma.com.

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Safe Harbor Statement

This news release contains forward-looking statements, including statements related to anticipated clinical development, regulatory and commercial milestones and potential health and medical benefits of Soliris® (eculizumab) for the potential treatment of patients with PNH and aHUS. Forward-looking statements are subject to factors that may cause Alexion's results and plans to differ from those expected, including for example, decisions of regulatory authorities regarding marketing approval or material limitations on the marketing of Soliris for its current or potential new indications, and a variety of other risks set forth from time to time in Alexion's filings with the Securities and Exchange Commission, including but not limited to the risks discussed in Alexion's Quarterly Report on Form 10-Q for the period ended March 31, 2012, and in Alexion's other filings with the Securities and Exchange Commission. Alexion does not intend to update any of these forward-looking statements to reflect events or circumstances after the date hereof, except when a duty arises under law.

References

(1) Abstract 0490, entitled "Systemic Multi-Organ Complications in Atypical Hemolytic Uremic Syndrome (aHUS): Retrospective Study in a Medical Practice Setting," presented by Craig Langman at the 17th Congress of the European Hematology Association, June 15, 2012.

(2) Abstract 1155, entitled "Eculizumab Therapy for Pediatric Patients with Atypical Hemolytic Uremic Syndrome: Efficacy and Safety Outcomes of a Retrospective Study," presented by Ramon Vilalta at the 17th Congress of the European

Hematology Association, June 17, 2012.
(3) Abstract 0886, entitled "Incidence of PNH Clones by Diagnostic Code Utilizing High Sensitivity Flow Cytometry," presented by Mayur K. Movalia at the 17th Congress of the European Hematology Association, June 16, 2012.
(4) Abstract 0897, entitled "Efficacy And Safety Of Eculizumab In Children And Adolescents With Paroxysmal Nocturnal Hemoglobinuri," presented by Ulrike M. Reiss at the 17th Congress of the European Hematology Association, June 16, 2012.
(5) Noris M, Remuzzi G: Atypical hemolytic-uremic syndrome. N Engl J Med 2009 361:1676-87.
(6) Benz K, Amann K. Thrombotic microangiopathy: new insights. Curr Opin Nephrol Hypertens 2010 May;19(3):242-7
(7) Tsai HM. The molecular biology of thrombotic microangiopathy. Kidney Int 2006 Jul;70(1):16-23.
(8) Caprioli J, Noris M, Brioschi S, et al; for the International Registry of Recurrent and Familial HUS/TTP. Genetics of HUS: the impact of MCP, CFH, and IF mutations on clinical presentation, response to treatment, and outcome. Blood. 2006;108:1267-1279.
(9) Loirat et al, Semin Thromb Hemost. 2010;36:673-681.
(10) Bresin E, Daina E, Noris M, et al; International Registry of Recurrent and Familial HUS/TTP. Outcome of renal transplantation in patients with non—Shiga toxin-associated hemolytic uremic syndrome: prognostic significance of genetic background. Clin J Am Soc Nephrol. 2006;1:88-99
(11) Noris M, Caprioli J, Bresin E, et al. Relative role of genetic complement abnormalities in sporadic and familial aHUS and their impact on clinical phenotype. Clin J Am Soc Nephrol. 2010;5:1844-1859.
(12) Socié G, Mary J Yves, de Gramont A, et al. Paroxysmal nocturnal haemoglobinuria: long-term follow-up and prognostic factors. Lancet. 1996: 348:573-577.
(13) Parker C, Omine M, Richards S, et al. Diagnosis Socié G, Mary J Yves, de Gramont A, et al. Paroxysmal nocturnal haemoglobinuria: long-term follow-up and prognostic factors. Lancet. 1996: 348:573-577.and management of paroxysmal nocturnal hemoglobinuria. Blood. 2005;106 (12):3699-3709.
(14) Hillmen P, Lewis SM, Bessler M, Luzzatto L, Dacie JV. Natural history of paroxysmal nocturnal hemoglobinuria. N Engl J Med. 1995; 333:1253-1258.
(15) Wang H, Chuhjo T, Yasue S, Omine M, Naka S. Clinical significance of a minor population of paroxysmal nocturnal hemoglobinuria-type cells in bone marrow failure syndrome. Blood. 2002;100 (12):3897-3902.
(16) Iwanga M, Furukawa K, Amenomori T, et al. Paroxysmal nocturnal haemoglobinuria clones in patients with myelodysplastic syndromes. Br J Haematol. 1998;102 (2):465-474.
(17) Maciejewski JP, Risitano AM, Sloand EM, et al. Relationship between bone marrow failure syndromes and the presence of glycophosphatidyl inositol-anchored protein-deficient clones. Br J Haematol. 2001;115:1015-102.

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