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Longer-term Outcome Data from the Largest Prospective Trial of Soliris® (eculizumab) in aHUS Underscore the Effectiveness of Ongoing Soliris Treatment

- Multiple Clinical Presentations at Kidney Week 2014 -

- Studies Report Clinical Benefits of Ongoing Soliris Therapy in Children and Adults Regardless of Dialysis or Transplant History -

- New aHUS Registry Data Enhance the Understanding of aHUS -

CHESHIRE, Conn.--(BUSINESS WIRE)-- Alexion Pharmaceuticals, Inc. (NASDAQ:ALXN) today announced that researchers presented data from clinical trials of Soliris® (eculizumab) in patients with atypical hemolytic uremic syndrome (aHUS), as well as an update from the Global aHUS Registry, at Kidney Week 2014, the annual meeting of the American Society of Nephrology, in Philadelphia. These data, from a total of seven presentations, continue to enhance the understanding of aHUS and underscore the effectiveness of sustained Soliris treatment in children and adults with aHUS. Data included:

- New results from a 1-year update of the largest prospective trial of Soliris in adult patients with aHUS, in which TMA inhibition and improved renal outcomes were sustained and increased numbers of patients achieved renal improvement with ongoing treatment with Soliris[1]
- A reported 97% reduction in risk of progression to end-stage renal disease (ESRD) in patients with aHUS receiving Soliris compared to patients receiving supportive care only, based on an analysis from the two Soliris registration clinical trials[2]
- Observed improvements in hematologic and renal outcomes in patients with aHUS treated with Soliris regardless of dialysis or transplant history, based on three post-hoc sub-analyses from two prospective open-label, single-arm trials of Soliris in adult and pediatric patients[3,4,5]
- Baseline demographics from the Global aHUS Registry, confirming the devastating nature of aHUS and increasing the understanding of the disease[6]
- Biomarker data in which markers of alternative complement pathway activation and endothelial cell activation were reduced with sustained Soliris treatment but remained elevated without clinical consequences, suggesting that patients with aHUS have ongoing dysregulation of complement and supporting the need for sustained terminal complement blockade with Soliris[7]

aHUS is a genetic, chronic, ultra-rare disease that can progressively damage vital organs, potentially leading to stroke, heart attack, kidney failure, and death.[8] The morbidities and premature mortality in aHUS are caused by permanent, uncontrolled activation of the complement system, resulting in systemic thrombotic microangiopathy (TMA), the formation of blood clots in small blood vessels throughout the body.[9,10] Soliris, a first-in-class terminal complement inhibitor, is the first and only approved treatment for patients with aHUS to inhibit complement-mediated TMA in the United States, European Union, Japan and other countries.

"The extensive data presented at Kidney Week 2014 build upon the growing body of clinical knowledge supporting the benefits of early and sustained treatment with Soliris in a broad group of patients with aHUS," said Leonard Bell, M.D., Chairman and Chief Executive Officer of Alexion. "These studies further underscore the clinical benefit of ongoing terminal complement inhibition and reflect our commitment to providing optimal care for pediatric and adult patients with this genetic disorder."

The following posters were presented today at Kidney Week 2014:

Eculizumab Inhibits Thrombotic Microangiopathy and Improves Renal Function in Adult Atypical Hemolytic Uremic Syndrome Patients: 1-Year Update (Poster SA-PO508)

Fadi Fakhouri M.D., Ph.D., of Centre Hospitalier Universitaire de Nantes in Nantes, France, presented outcomes from a 1-year update of the largest prospective study (Study C10-004) of Soliris in adult patients with aHUS (N=41). In this open-label, single-arm trial, the primary endpoint of complete TMA response—defined as platelet count normalization, LDH normalization and preservation of renal function—was achieved by 30 patients receiving Soliris (73%) at 26 weeks and by 33 patients (80%) at 1 year. Patients also had continued improvement in renal function with sustained Soliris treatment, with 22 patients (54%)

achieving an improvement in estimated glomerular filtration rate *(*eGFR) from baseline of ≥15 mL/min/1.73 m^2 at 26 weeks and 25 patients (61%) achieving this endpoint at 1 year.[1]

There were no unexpected safety signals in the one-year study period. The most common drug-related adverse events (AEs) at 1 year were alopecia (7%), asthenia (5%), arthralgia (5%) and pain in extremity (5%). Two patients in the C10-004 study had meningococcal infections, both during the 26-week study period. One patient discontinued from the study and later recovered; the other continued treatment with no interruption and recovered without sequelae. No additional meningococcal infections were reported between 26 weeks and 1 year.

"In this 1-year update from the largest prospective Soliris trial in adult patients with aHUS, we reported that sustained Soliris treatment continued to inhibit TMA, and that the clinical benefits observed at 26 weeks were improved or maintained at 1 year. In addition, the number of patients who achieved demonstrable clinical benefits continued to increase with longer Soliris treatment, further supporting ongoing treatment with Soliris," said Dr. Fakhouri.

Time to End-Stage Renal Disease in Patients with Atypical Hemolytic Uremic Syndrome Receiving Supportive Care and Eculizumab (Poster SA-PO509)

Researchers also presented an analysis that retrospectively evaluated the decline in renal function and progression to ESRD in patients in the pretreatment period of two clinical trials and compared this to the time to progression to ESRD in the same patients after beginning treatment with Soliris. Patients in the pretreatment period received supportive care, defined as plasma exchange/plasma infusion (PE/PI), dialysis and/or kidney transplant. In the analysis, patients receiving Soliris (N=33) had a 97% reduction in the risk of progression to ESRD over 3 years compared with the risk of progression to ESRD in patients receiving supportive care only (N=32). Additionally, over 3 years, no patient who initiated Soliris in chronic kidney disease (CKD) stage 2 or 3 progressed to ESRD, and the risk of progression for patients who initiated Soliris treatment in CKD stage 4 was reduced by 92% compared to the risk of progression in patients receiving supportive care only .[2] These results are consistent with outcomes reported in prior clinical trials, in which patients with aHUS had improvements in renal outcomes and elimination of dialysis during ongoing treatment with Soliris.[11,12,13]

Safety and Efficacy of Eculizumab in Pediatric Patients With aHUS, With or Without Baseline Dialysis (Poster SA-PO546)

Johan Vande Walle, M.D., Ph.D., of the University of Ghent, Belgium, presented results from a post-hoc sub-analysis of an open-label single-arm trial (C10-003), evaluating the safety and efficacy of Soliris in pediatric patients with aHUS with and without a history of dialysis at baseline (N=22). In this study, complete TMA response (defined as platelet count normalization, LDH normalization and improvement of renal function) was achieved in 55% (6/11) of patients with baseline dialysis and 73% (8/11) of patients with no baseline dialysis. Dr. Vande Walle also reported mean eGFR improvement from baseline of +57.7 mL/min/1.73 m^2 for patients with baseline dialysis and +70.3 mL/min/1.73 m^2 for patients with no baseline dialysis. Researchers concluded that Soliris treatment was efficacious in patients with aHUS regardless of dialysis history.[3]

There were no unexpected safety signals reported during the analysis period, and no meningococcal infections were reported in the C10-003 study. The most common AEs reported by subgroup were: for patients with baseline dialysis, pyrexia (54.5%), respiratory tract infection (36.4%), and cough (36.4%); for patients without baseline dialysis, pyrexia (45.5%), abdominal pain (36.4%), cough (36.4%), diarrhea (36.4%), and nasopharyngitis (36.4%).

Safety and Efficacy of Eculizumab in Adult Patients With aHUS, With or Without Baseline Dialysis (Poster SA-PO507)

Dr. Fakhouri presented results from a post-hoc sub-analysis from the C10-004 study that evaluated the safety and efficacy of Soliris in adult patients with aHUS with and without a history of dialysis at baseline (N=41). In this study, complete TMA response was achieved in 71% (17/24) of patients with baseline dialysis and 77% (13/17) of patients with no baseline dialysis. He also reported mean eGFR improvement from baseline of +35.0 mL/min/1.73 m^2 for patients with baseline dialysis and +20.0 mL/min/1.73 m^2 for patients with no baseline dialysis. Researchers concluded that Soliris treatment was efficacious in patients with aHUS regardless of dialysis history. [4]

There were no unexpected safety signals reported during the analysis period. As previously described, two patients in the C10-004 study had meningococcal infections (one patient discontinued from the study and later recovered; the other continued treatment with no interruption and recovered without sequelae). The most common AEs reported by subgroup were: for patients with baseline dialysis, headache (33.3%), diarrhea (29.2%), and hypotension (20.8%); for patients without baseline dialysis, headache (41.2%), diarrhea (35.3%), and asthenia (29.4%).

Safety and Efficacy of Eculizumab in Adult aHUS Patients, With or Without Renal Transplant (Poster SA-PO511)

Chantal Loirat, M.D., of the Hôpital Robert Debre, Paris, presented a post-hoc sub-analysis from the C10-004 study that evaluated the safety and efficacy of Soliris in adult patients with aHUS (N=41) with and without a history of renal transplant. In the study, complete TMA response was achieved in 78% (25/32) of non-transplant patients and in 56% (5/9) of transplant patients. In addition, non-transplant patients had a mean eGFR improvement of +31.5 mL/min/1.73 m^2 from baseline, while transplant patients had a mean improvement of +19.0 mL/min/1.73 m^2. Dr. Loirat concluded that these data provide additional support for the early initiation of Soliris in both transplant and non-transplant patient with aHUS.[5]

There were no unexpected safety signals reported during the analysis period. As previously described, two patients in the C10-004 study developed meningococcal infections (one patient discontinued from the study and later recovered; the other continued treatment with no interruption and recovered without sequelae). The most common AEs reported by sub-group were: for patients with renal transplant, diarrhea (55.6%), anemia (44.4%), urinary tract infection (33.3%), renal impairment (33.3%), and hematoma (33.3%); for patients without renal transplant, headache (40.6%), peripheral edema (28.1%), diarrhea (25.0%), and cough (25.0%).

Characteristics of 521 Adult and Pediatric Patients in the Global aHUS Registry (Poster SA-PO510)

Christoph Licht, M.D., FASN, of The Hospital for Sick Children, Toronto, presented baseline demographics from patients enrolled in the global aHUS Registry, which is dedicated to increasing the understanding and awareness of aHUS to help optimize care and improve quality of life for patients. As of August 2014, 521 patients had enrolled in the registry.[6]

Eculizumab Reduces Markers of Complement Activation, Inflammation, Thrombosis and Endothelial Activation and Damage: Correlation with Improved Renal Function in Patients with Atypical Hemolytic Uremic Syndrome (SA-PO506)

Important biomarker data from a prospective, open-label trial of adult patients (N=41) with aHUS treated with Soliris were also reported today. The study authors reported that at baseline, prior to initiation of Soliris, patients with aHUS showed significant elevation in levels of markers of proximal and terminal complement activation, inflammation, coagulation, and endothelial cell activation and damage regardless of CKD stage or dialysis. Sustained Soliris treatment significantly reduced and normalized highly elevated measures of terminal complement activation, and resulted in:[7]

- Significant reduction in markers of inflammation (sTNFR1) by up to 94%; reduction after week 6 was sustained and significant across all later time points ($P < 0.0001$)
- Significant reduction in markers of coagulation (D-dimer) by up to 99%; reduction was sustained ($P < 0.0001$ for all time points) but remained modestly above healthy volunteer levels at week 52
- Significant reduction in markers of endothelial damage (thrombomodulin) ($P < 0.0001$) to near normal levels; reduction was significant across all later time points ($P < 0.0001$) after week 17
- Markers of proximal complement (Ba) upstream of C5, and markers of endothelial activation (sVCAM-1) were also reduced but remained above those of healthy volunteers, reflecting ongoing dysregulation of complement in aHUS and the need for sustained terminal complement blockade.

"These data highlight the chronic complement dysregulation and ongoing risk of complement-mediated TMA and organ damage in patients with aHUS," said Camille L. Bedrosian, M.D., Chief Medical Officer of Alexion. "These findings further support the need for sustained terminal complement inhibition, even when clinical presentation and lab values have improved."

About aHUS

aHUS is a chronic, ultra-rare, and life-threatening disease in which a life-long and permanent 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.[14,15] 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.[14,16] Seventy-nine percent of all patients with aHUS die, require kidney dialysis or have permanent kidney damage within three years after diagnosis despite plasma exchange or plasma infusion (PE/PI).[8] Moreover, 33 to 40 percent of patients die or progress to end-stage renal disease with the first clinical manifestation of aHUS despite PE/PI.[8,9] The majority of patients with aHUS who receive a kidney transplant commonly experience subsequent systemic TMA, resulting in a 90 percent transplant failure rate in these TMA patients.[17]

aHUS affects both children and adults. 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 percent of patients with a confirmed diagnosis of aHUS.[8]

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 U.S. (2007), European Union (2007), Japan (2010) and other countries as the first and only treatment for patients with paroxysmal nocturnal hemoglobinuria (PNH) to reduce hemolysis. PNH is 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 U.S. (2011), the European Union (2011), Japan (2013) and other countries as the first and only treatment for patients with atypical hemolytic uremic syndrome (aHUS) to inhibit complement-mediated TMA. aHUS is a debilitating, ultra-rare and life-threatening genetic disorder characterized by complement-mediated thrombotic microangiopathy, or TMA (blood clots in small vessels). Soliris is not indicated for the treatment of patients with Shiga-toxin *E. coli*-related hemolytic uremic syndrome (STEC-HUS). For the breakthrough medical innovation in complement inhibition, Alexion and Soliris have received some of the pharmaceutical industry's highest honors: the Prix Galien USA (2008, Best Biotechnology Product) and France (2009, Rare Disease Treatment).

More information including the full U.S. 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 [see Warnings and Precautions (5.1)]. 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 two 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 Warnings and Precautions (5.1) for additional guidance on the management of the risk 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 [see Warnings and Precautions (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 headache, diarrhea, hypertension, upper respiratory infection, abdominal pain, vomiting, nasopharyngitis, anemia, cough, peripheral edema, nausea, urinary tract infections, and pyrexia. Soliris is not indicated for the treatment of patients with Shiga-toxin *E. coli*-related hemolytic uremic syndrome (STEC-HUS). Please see full prescribing information for Soliris, including BOXED WARNING regarding risk of serious meningococcal infection.

About Alexion

Alexion is a biopharmaceutical company focused on serving patients with severe and 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 nearly 50 countries for the treatment of PNH and in nearly 40 countries for the treatment of aHUS. Alexion is evaluating other potential indications for Soliris in additional severe and ultra-rare disorders beyond PNH and aHUS, and is developing other highly innovative biotechnology product candidates, including asfotase alfa, across multiple therapeutic areas. This press release and further information about Alexion 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 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 September 30, 2014, 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.

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