NHF NewsBriefs

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This report includes selected news items from the past week on issues of concern to the bleeding disorders community. It is designed to help keep NHF national and local leadership and staff informed of the latest information from the news media. It will be distributed by email on Thursday of each week, covering important news items from the previous seven days. Subjects covered will include hemophilia, other bleeding disorders, gene therapy, hepatitis, HIV/AIDS, and others.

April 16, 2018
Businesswire.com

Breakthrough Study at Orthopaedic Institute for Children Reveals That Education Can Reduce Prosthetic Joint Infections in Hemophilia Patients

A breakthrough study conducted at the Orthopaedic Institute for Children (OIC) in Los Angeles has revealed that better patient education can significantly reduce the chance of prosthetic joint infection in patients with hemophilia. The findings will be presented at the World Federation of Hemophilia's annual meeting in Glasgow next month.

Hemophilia is a rare and inherited bleeding disorder in which the blood doesn't clot normally. It can be a crippling disease with a range of issues causing discomfort and problems for patients, including bleeding in joints or limbs and deformities caused by chronic arthritis. This arthritis begins in childhood and often requires joint replacement by early adulthood to middle age. People with hemophilia often bleed for a longer time than others after an injury. They may also bleed internally, which can damage organs and tissues and may be life-threatening.

Historically, joint replacement infection is much more common in patients with hemophilia than in other forms of arthritis. Many in the medical and scientific communities have believed that this is the result of immune suppression in those with HIV infection. The physicians and researches at OIC weren't so sure.

"Based on our experience and observations, we postulated that the primary risk factor was tied to frequent intravenous (IV) self-infusion," said James Luck, M.D., director of surgery and rehabilitation of OIC's Hemophilia Treatment Center and professor-in-residence at the UCLA/Orthopaedic Institute for Children department of orthopaedic surgery. "We wanted to find out the true cause of this and what could be done to mitigate the occurrence of these infections, which usually require removal of the implant, treatment of the infection, and then reinsertion of the implant. If the infection recurs, it will require more procedures and occasionally even amputation."

Toward that end, in 2005 OIC's Hemophilia Treatment Center began a comprehensive program of patient education in the proper use of IV self-infusion for all of its patients who had prosthetic joints. In the subsequent six years, the center performed 49 primary joint replacements in 32 patients with hemophilia. The results of proper IV self-infusion education for these patients were startling.

"Incidents of infection dropped from 17 percent to zero percent for these patients, meaning that there have been no primary infections over this timeframe," said Dr. Luck. "While immune suppression might still be an aggravating factor, it is clear from our study that the primary source of late infection in patients with hemophilia is frequent IV self-infusion being poorly administered. Through protocol-driven patient education in sterile techniques for IV self-infusion, the incidents of prosthetic joint infection can be significantly impacted."

For more than 50 years, OIC's Hemophilia Treatment Center has been at the leading edge of treatment to help patients suffering from hemophilia and bleeding disorders live healthier, happier and pain-free lives. The center pioneered the concept of providing a comprehensive, multidisciplinary team approach to the management of children and adults with bleeding disorders. As a result, the center was designated an International Hemophilia Training Center in 1970 – one of the first four in the world —

by the World Federation of Hemophilia. The center's physicians are at the forefront of their field and are actively involved in hemophilia-based research and treatment.

About Orthopaedic Institute for Children

Orthopaedic Institute for Children (OIC) was founded in 1911 as Los Angeles Orthopaedic Hospital. Focused solely on musculoskeletal conditions in children, OIC receives nearly 70,000 patient visits each year. In alliance with UCLA Health and with the support of the OIC Foundation, we advance pediatric orthopaedics worldwide through outstanding patient care, medical education and research. Our locations in downtown Los Angeles, Santa Monica, Westwood and Calexico treat the full spectrum of pediatric orthopaedic disorders and injuries. For more information, visit us at ortho-institute.org.

April 16, 2018
Prnewswire.com

World Hemophilia Day 2018: Sharing Knowledge Makes Us Stronger

Strengthening the Bleeding Disorders Community on World Hemophilia Day 2018

On April 17, 2018, the global bleeding disorders community and the World Federation of Hemophilia (WFH) will come together to promote and encourage **Sharing Knowledge** and the role it plays in building a stronger community.

World Hemophilia Day is an opportunity to help people with bleeding disorders live healthier, longer and more productive lives by educating and empowering them through knowledge sharing, information exchanges, education, and training. This is possible because the bleeding disorders community is rich with experience and wisdom that can help increase awareness and improve access to care and treatment.

"World Hemophilia Day is a wonderful opportunity for our community to make its presence felt," explains Alain Weill, President of the WFH. "Our focus this year is on Sharing Knowledge because we are convinced that knowledge and education are key drivers in stronger support for patients in our community. The WFH has a long history of collecting data and sharing knowledge. The WFH World Bleeding Disorders Registry (WBDR) is an example of how data collection will be used to advance the understanding and care of people with hemophilia worldwide. An accessible patient registry strengthens our capacity to identify, diagnose, treat, and care for people living with hemophilia and other rare inherited bleeding disorders."

In addition to the WBDR, the WFH Annual Global Survey collects basic demographic information and data on access to care and treatment products in order to provide hemophilia organizations, hemophilia treatment centres and health officials with useful information to support efforts to improve or sustain the care of people with bleeding disorders.

To ensure all members of the bleeding disorder community have access to important clinical and patient-focused information, the WFH developed the WFH eLearning Platform. The platform features more than 500 important resources — in six languages — including guides, fact sheets, videos, articles, games, and interactive modules that are downloadable for free, and are well-suited for any learning style or area of interest.

World Hemophilia Day 2018 activities include a global campaign to light up landmarks around the world in red as has been done so successfully in the past. Members of the community, partners and national member organizations have come together so that local landmarks will "Light up red" on April 17. Also, many people will light a red light in their home or office in an individual effort to raise awareness in their immediate vicinity. To get World Hemophilia Day resources, such as a downloadable poster and social media badges, visit www.wfh.org/en/whd.

The WFH would like to thank our 2018 World Hemophilia Day sponsors for their continued support:

Bayer, BioMarin Pharmaceutical Inc., Biotest, Bioverativ a Sanofi Company, CSL Behring, F. Hoffmann-La Roche Ltd, GC Pharma, Grifols, Kedrion, LFB, Novo Nordisk, Octapharma, Pfizer, Precision BioLogic, Sangamo Therapeutics, Sanofi Genzyme, Shire, Sobi, uniQure

About hemophilia and other bleeding disorders

Hemophilia, von Willebrand disease, inherited platelet disorders, and other factor deficiencies are lifelong bleeding disorders that prevent blood from clotting properly. People with bleeding disorders do not have enough of a particular clotting factor, a protein in blood that controls bleeding, or else it does not work properly. The severity of a person's bleeding disorder usually depends on the amount of clotting factor that is missing or not functioning. People with hemophilia can experience uncontrolled bleeding that can result from a seemingly minor injury. Bleeding into joints and muscles causes severe pain and disability while bleeding into major organs, such as the brain, can cause death.

About the World Federation of Hemophilia

For over 50 years, the World Federation of Hemophilia (WFH) — an international not-for-profit organization — has worked to improve the lives of people with hemophilia and other inherited bleeding disorders. Established in 1963, it is a global network of patient organizations in 134 countries and has official recognition from the World Health Organization. To find out more about the WFH, visit www.wfh.org.

April 16, 2018
Prnewswire.com

Grifols Donates Over 25 Million International Units of Blood Clotting Factor In 2017

Part of an eight-year commitment to WFH; Changing the lives of people with hemophilia in 47 countries with limited access to treatment

Today, Grifols, S.A. announced it has donated over 25 million international units (IU) of blood clotting factor medicines over the last year. This donation is part of Grifols' commitment to provide a minimum of 200M IU to the World Federation of Hemophilia (WFH) Humanitarian Aid Program over eight years starting in 2014. An estimated 400,000 people around the world have hemophilia, yet only 25% receive adequate treatment.

Grifols donation has helped to change the lives of patients in 47 countries where access to adequate treatment is often lacking or absent. As part of the Company's commitment to the program, Grifols expects to make another donation of nearly 25M IUs in 2018 to help even more patients around the world.

"On World Hemophilia Day, we celebrate our long-standing commitment to the bleeding disorders community," said Victor Grifols Deu, Co-CEO of Grifols. "Grifols is dedicated to supporting the mission of the WFH and we share the common goal of helping to ensure life-changing treatments reach patients who have little or no access to care."

Through the WFH Humanitarian Aid Program, Grifols has been able to transform the lives of hemophilia patients who had previously had little hope or ability to manage their disease. Because of the Company's donation patients around the world are able to proactively manage their disease by preventing serious bleeds that can lead to unbearable pain and even death. One patient named Francis told the WFH, "Fifteen years ago doctors would have told us to manage our bleeds by prescribing something for the pain, now we have access to treatment. I thank the WFH and its donors; you have given us all hope for the future."

Grifols produces plasma-derived medicines to treat rare, chronic diseases such as hemophilia and also develops solutions for the diagnoses of bleeding disorders. The company has increased its production of blood clotting factor medicines (Factor VIII and Factor IX) to specifically meet its donation commitment to this program. According the WFH, Grifols full donations will secure a projected average of 10,300 doses to treat approximately 6,000 patients per year in developing countries worldwide through 2021.

"The commitment that Grifols has made to the WFH Humanitarian Aid Program ensures access to treatment for many in need," said Alain Bauman, CEO, WFH, and Executive Director of WFH USA. "We are grateful for this continued support, helping us work towards our global mission." Grifols' donation also supports the second decade of the WFH Global Alliance for Progress (GAP) Program aimed at increasing the number of patients diagnosed and treated for bleeding disorders, particularly in the world's most impoverished countries.

For more information about the WFH, hemophilia and other bleeding disorders go to http://www.wfh.org/.

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About Grifols:

Grifols is a global healthcare company with more than 75 years of legacy dedicated to improving the health and well-being of people around the world. Grifols produces essential plasma-derived medicines for patients and provides hospitals and healthcare professionals with the tools, information and services they need to help them deliver expert medical care.

Grifols' three main divisions -Bioscience, Diagnostic and Hospital- develop, produce and market innovative products and services that are available in more than 100 countries.

Grifols is headquartered in Barcelona, Spain and has 18,300 employees in 30 countries. In 2017, sales exceeded 4,300 million euros. Grifols demonstrates its strong commitment to advancing healthcare by allocating a significant portion of its annual income to research, development and innovation.

The company's class A shares are listed on the Spanish Stock Exchange, where they are part of the Ibex-35. Grifols non-voting class B shares are listed on the Mercado Continuo and on the US NASDAQ via ADRs.

For more information, visit www.grifols.com

About the WFH Humanitarian Aid Program

For many developing countries, product donations are often the only source of treatment product for patients with hemophilia and other bleeding disorders. The WFH receives requests, many urgent in nature, from our national member organizations (NMOs) and from recognized hemophilia treatment centers (HTCs) around the world. An increasing number of collaborators within the global bleeding disorders community have accepted the challenge of providing a sustainable and predictable supply of donated products. Through the donation by Bioverativ and Sobi to the WFH Humanitarian Aid Program of up to 500 million IUs within five years, the Grifols eight-year commitment totaling 200 million IUs, the three year agreement with CSL Behring for a total of 10 million IUs, and the agreement with Green Cross for 6 million IUs, there will now be a more predictable and sustainable flow of humanitarian aid donations to the global community.

April 17, 2018
Businesswire.com

Chugai's HEMLIBRA® Receives Breakthrough Therapy Designation from U.S. FDA for Hemophilia A Without Factor VIII Inhibitors

－The Sixth Designation for Chugai Originated Drug －

Chugai Pharmaceutical Co., Ltd. announced today that the U.S. Food and Drug Administration (FDA) has granted Breakthrough Therapy Designation for its anti-coagulation factor IXa/X humanized bispecific monoclonal antibody / coagulation factor VIII substitute, "HEMLIBRA®" [US generic name: emicizumab-kxwh] for people with hemophilia A without factor VIII inhibitors. Development and distribution of the drug in the US is conducted by Genentech, a member of Roche Group.

"We are thrilled that HEMLIBRA has been granted its second Breakthrough Therapy Designation," said Chugai's Executive Vice President, Co-Head of Project & Lifecycle Management Unit, Dr. Yasushi Ito. "This will allow us to expedite potential delivery of this new therapy we created to people with hemophilia A without inhibitors in the US following the previous designation for inhibitors. We continue to work closely with Genentech to enable this line extension as soon as possible."

This designation is based on the global phase III HAVEN 3 (NCT02847637) study evaluating HEMLIBRA subcutaneous injection once a week and once every two weeks in people with hemophilia A (12 years of age or older) without inhibitors to factor VIII.

Hemophilia A is a disease presenting repeated severe bleeding symptoms. In this disease, the blood coagulation reaction does not proceed normally due to the deficiency or functional disorder of coagulation factor VIII. For people with hemophilia A without inhibitors, regular factor VIII replacement therapy has been widely used to prevent bleeding. HEMLIBRA is a bispecific monoclonal antibody, which was developed using Chugai's proprietary antibody engineering technologies. The drug is designed to bind factor IXa and factor X. In doing so, HEMLIBRA provides the cofactor function of factor VIII in people with hemophilia A, who either lack or have impaired coagulation function of factor VIII1, 2). In the HAVEN 3 study, a statistically significant reduction in the frequency of bleeding episodes was observed with HEMLIBRA. With the convenience of subcutaneous administration and the lower frequency of administration, it is expected to be a new treatment option for hemophilia A.

This is the sixth Breakthrough Therapy Designation received for three drugs created by Chugai: ALECENSA® (ALK-positive non-small cell lung cancer with disease progression on crizotinib, and first line treatment for ALK-positive non-small cell lung cancer), ACTEMRA® (systemic sclerosis and giant cell arteritis), and HEMLIBRA (prophylactic treatment for patients 12 years or older with hemophilia A with factor VIII inhibitors).

References

1. Kitazawa, et al. Nature Medicine 2012; 18(10): 1570
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About Breakthrough Therapy

Breakthrough Therapy Designation was adopted as part of the FDA Safety and Innovation Act (FDASIA) enacted in July 2012 aiming at expediting the development and review of drugs for the treatment of severe or life-threatening diseases or symptoms. In order to grant Breakthrough Therapy Designation, preliminary clinical evidence is required demonstrating that the drug may have substantial improvement on at least one clinically significant endpoint over existing therapies. Breakthrough Therapy Designation includes the features of a Fast Track designation, with the addition of intensive guidance on efficient drug development as well organizational commitment from FDA.

Main approval status of the drug

US: In November 2017, the drug (US product name: HEMLIBRA®; Genentech) was approved by the U.S. Food and Drug Administration and was marketed for "routine prophylaxis to prevent or reduce the frequency of bleeding episodes in adult and pediatric patients with hemophilia A (congenital factor VIII deficiency) with factor VIII inhibitors."

EU: In Europe, the drug (EU product name: HEMLIBRA®; Roche) obtained regulatory approval from the European Commission and was marketed for routine prophylaxis of bleeding episodes in people with hemophilia A with factor VIII inhibitors in February 2018.

Japan: The Ministry of Health, Labour and Welfare has approved HEMLIBRA for routine prophylaxis to prevent or reduce the frequency of bleeding episodes in patients with congenital factor VIII deficiency (hemophilia A) with factor VIII inhibitors in March 2018.

About the results of HAVEN 3 study

Press release issued on November 20, 2017
https://www.chugai-pharm.co.jp/english/news/detail/20171120151500.html

About Chugai

Chugai Pharmaceutical is one of Japan's leading research-based pharmaceutical companies with strengths in biotechnology products. Chugai, based in Tokyo, specializes in prescription pharmaceuticals and is listed on the 1st section of the Tokyo Stock Exchange. As an important member of the Roche Group, Chugai is actively involved in R&D activities in Japan and abroad. Specifically, Chugai is working to develop innovative products which may satisfy the unmet medical needs, mainly focusing on the oncology area.
In Japan, Chugai's research facilities in Gotemba and Kamakura are collaborating to develop new pharmaceuticals and laboratories in Ukima are conducting research for technology development for industrial production. Overseas, Chugai Pharmabody Research based in Singapore is engaged in research focusing on the generation of novel antibody drugs by utilizing Chugai's proprietary innovative antibody engineering technologies. Chugai Pharma USA and Chugai Pharma Europe are engaged in clinical development activities in the United States and Europe.
The consolidated revenue in 2017 of Chugai totaled 534.2 billion yen and the operating income was 103.2 billion yen (IFRS Core basis).
Additional information is available on the internet at https://www.chugai-pharm.co.jp/english.

April 17, 2018
Globenewswire.com

FDA Approves Vonvendi® [Von Willebrand Factor (Recombinant)] for Perioperative Management of Bleeding in Adult Patients with Von Willebrand Disease

Shire plc, the global biotechnology leader in rare disease, today announced the U.S. Food and Drug Administration (FDA) has approved VONVENDI [von Willebrand factor (recombinant)], a recombinant von Willebrand factor (rVWF) treatment for perioperative management of bleeding in adults (age 18 and older) with von Willebrand disease (VWD).[1] VONVENDI is also indicated for on-demand treatment and control of bleeding episodes, and it is the first and only recombinant treatment for adults living with VWD, the most common inherited bleeding disorder.[1,3-4]

"The expanded approval of VONVENDI represents a new treatment option for the surgical setting that can be tailored to each patient's individual needs,"[1,3-5] said Andreas Busch, Global Head of Research and Development, Shire. "It's an important milestone in support of our vision of personalizing treatment and helping to address unmet needs for people with bleeding disorders."[1,3-5]

People with VWD lack proper quantities of VWF or functioning VWF, and they may or may not have a secondary factor VIII (FVIII) deficiency.[5] Since not every person with VWD or every bleed requires FVIII replacement, VONVENDI allows healthcare providers to dose recombinant VWF independent of recombinant FVIII based on clinical judgement for each patient, taking into account severity, site of bleeding, the patient's medical history and monitoring of appropriate clinical and laboratory measures.[1] Independent dosing with VONVENDI offers an individualized approach to bleed control in appropriate patients undergoing surgery.[1]

"Persons with von Willebrand disease face a heightened risk of bleeding during surgery and may require factor treatment before, during or after surgery," said Michael Tarantino, M.D., Professor of Pediatrics and Medicine, University of Illinois College of Medicine, and Medical Director and President, The Bleeding and Clotting Disorders Institute. "For surgeries requiring repeated, frequent infusions with combined von Willebrand factor and factor VIII concentrates, an excessive rise in factor VIII levels may increase the risk of thromboembolic complications, such as blood clots.[1,7] The expanded use for VONVENDI in surgical settings gives healthcare professionals flexibility in treating von Willebrand disease with an appropriate dose of von Willebrand factor, with or without recombinant factor VIII, based on each patient's unique needs."[1,5]

The approval of VONVENDI in surgical settings was based on results from a Phase 3 prospective, open-label, multicenter trial to evaluate the efficacy and safety of VONVENDI with or without recombinant FVIII treatment in elective surgical procedures in adults (age 18 years and older) diagnosed with severe VWD.[1] Results from the study showed VONVENDI met its primary endpoint, demonstrating overall hemostatic efficacy assessed 24 hours after the last perioperative VONVENDI infusion or at completion of study visit, whichever occurred earlier.[1] The overall median dosing frequency of once-daily was demonstrated to normalize hemostasis in appropriate patients.[1] One study participant developed deep vein thrombosis three days after undergoing hip replacement surgery while receiving VONVENDI.[1]

In addition to the expanded use of VONVENDI, the updated Prescribing Information includes new information about pharmacokinetics and storage of VONVENDI. VONVENDI can be stored at

refrigerated temperature 2°C to 8°C (36°F to 46°F) or room temperature not to exceed 30°C (86°F). Do not freeze. Store VONVENDI in the original box and protect it from extreme exposure to light.

VONVENDI was first approved by the FDA in December 2015.

Additional Study Details

Intra- and postoperative hemostasis achieved with recombinant VWF with or without recombinant FVIII was rated as "excellent" (as good as or better than expected) or "good" (probably as good as expected) for all 15 study participants treated with VONVENDI.[1] To declare the outcome a success, a rating of excellent or good was required.[1] Study participants received a dose of 40 to 60 International Units (IU) per kg body weight of VONVENDI 12 to 24 hours before surgery.[1] Within 3 hours prior to surgery, each study participant's factor VIII level (FVIII:C) was assessed with a target of 30 IU/dL for minor surgeries and 60 IU/dL for major surgeries.[1] Within 1 hour prior to surgery, study participants received a dose of VONVENDI with or without recombinant FVIII (depending on the target FVIII:C levels at the 3 hour assessment).[1] One study participant tested positive for binding antibodies to VWF.[1] No binding antibodies against potential impurities such as rFurin, CHO-protein or mouse IgG developed after treatment with VONVENDI.[1]

About von Willebrand disease (VWD)

VWD is the most common inherited bleeding disorder, affecting up to one percent of the U.S. population.[2] VWD is caused by a deficiency or dysfunction of VWF, one of several types of proteins in the blood that are needed to facilitate proper blood clotting.[2] Due to this defect or deficiency in VWF, blood is not able to clot effectively in people with VWD, which results in heavy menstrual periods, easy bruising or frequent nose bleeds.[2] Bleeding caused by VWD varies greatly among patients with this disease.[8]

VONVENDI [von Willebrand factor (recombinant)] Important Information

Indication

VONVENDI [von Willebrand factor (recombinant)] is a recombinant von Willebrand factor indicated for use in adults (age 18 and older) diagnosed with von Willebrand disease (VWD) for:

- On-demand treatment and control of bleeding episodes.
- Perioperative management of bleeding.

Detailed Important Risk Information

CONTRAINDICATIONS

Do not use VONVENDI in patients who have had life-threatening hypersensitivity reactions to VONVENDI or its components (tri-sodium citrate-dihydrate, glycine, mannitol, trehalose-dihydrate, polysorbate 80, and hamster or mouse proteins).

WARNINGS AND PRECAUTIONS

Embolism and Thrombosis

Thromboembolic reactions, including disseminated intravascular coagulation, venous thrombosis, pulmonary embolism, myocardial infarction, and stroke, can occur, particularly in patients with known risk factors for thrombosis, including low ADAMTS13 levels. Monitor for early signs and symptoms of thrombosis such as pain, swelling, discoloration, dyspnea,

cough, hemoptysis, and syncope, and institute prophylaxis measures against thromboembolism based on current recommendations.
In patients requiring frequent doses of VONVENDI in combination with recombinant factor VIII, monitor plasma levels for FVIII:C activity because sustained excessive factor VIII plasma levels can increase the risk of thromboembolic events.

One out of 80 VWD subjects treated with VONVENDI in clinical trials developed proximal deep vein thrombosis in perioperative period after undergoing total hip replacement surgery.

Hypersensitivity Reactions

Hypersensitivity reactions, including anaphylaxis, may occur. Symptoms can include anaphylactic shock, generalized urticaria, angioedema, chest tightness, hypotension, shock, lethargy, nausea, vomiting, paresthesia, pruritus, restlessness, wheezing and/or acute respiratory distress. Discontinue VONVENDI if hypersensitivity symptoms occur and administer appropriate emergency treatment.

Neutralizing Antibodies (Inhibitors)

Inhibitors to von Willebrand factor and/or factor VIII can occur. If the expected plasma levels of VWF activity (VWF:RCo) are not attained, perform an appropriate assay to determine if anti-VWF or anti-factor VIII inhibitors are present. Consider other therapeutic options and direct the patient to a physician with experience in the care of either VWD or hemophilia A.

In patients with high levels of inhibitors to VWF or factor VIII, VONVENDI therapy may not be effective and infusion of this protein may lead to severe hypersensitivity reactions. Since
inhibitor antibodies can occur concomitantly with anaphylactic reactions, evaluate patients experiencing an anaphylactic reaction for the presence of inhibitors.

ADVERSE REACTIONS

In clinical trials, the most common adverse reactions observed in greater than or equal to2% of subjects (n=80) were generalized pruritus, nausea and dizziness.
One subject treated with VONVENDI in perioperative setting developed deep vein thrombosis after undergoing total hip replacement surgery.

For Full Prescribing Information, visit http://www.shirecontent.com/PI/PDFs/VONVENDI_USA_ENG.pdf

References:

1. VONVENDI [von Willebrand factor (recombinant)] Prescribing Information.
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April 17, 2018
Businesswire.com

Bioverativ Highlights the Impact of Humanitarian Aid in Hemophilia

More than 15,000 people with hemophilia in 40 developing countries have already been treated following Bioverativ and Sobi's unprecedented donation of factor therapy to the WFH Humanitarian Aid Program

Bioverativ Inc., a Sanofi company dedicated to transforming the lives of people with rare blood disorders, joins the global hemophilia community in recognizing World Hemophilia Day 2018. To honor this year's theme, Sharing Knowledge Makes Us Stronger, Bioverativ is sharing the stories of people with hemophilia in the developing world and highlighting the life-changing impact treatment can make.

In 2014, Bioverativ and Swedish Orphan Biovitrum AB (publ) (Sobi) pledged to donate up to one billion international units (IUs) of clotting factor over 10 years, including up to 500 million IUs to the WFH Humanitarian Aid Program over a period up to five years, to help transform the way hemophilia care is delivered in the developing world. Since donations began in 2015, more than 15,000 people with hemophilia in 40 countries have already been treated with over 260 million IUs of medicine donated by Bioverativ and Sobi to the WFH Humanitarian Aid Program. The far-reaching impact of this donation includes:

- Nearly tripling the percentage of children receiving treatment from 14% to 39% of patients treated
- Providing prophylactic treatment to ~1,200 people, two-thirds of whom are children under the age of 10
- Treating approximately 79,500 acute bleeds
- Enabling more than 1,500 surgeries, including life- and limb-saving

"I have witnessed the profound impact that donated factor has on those living with hemophilia in developing countries, and we thank Bioverativ and Sobi for their visionary leadership," said Alain Weill, WFH President. "Whether for acute bleeds or prophylactic treatment, or to enable necessary surgeries, these donations are life-changing for patients and their families."

"We believe that all people with hemophilia should have predictable and sustainable access to the treatment they need, regardless of where they live," said John Cox, CEO at Bioverativ. "Bioverativ is proud to support the efforts of the World Federation of Hemophilia to raise the standard of care and improve outcomes for those most in need in developing countries."

As part of World Hemophilia Day, Bioverativ will also join with the WFH and the broader hemophilia community to raise awareness and encourage ongoing support for those living with bleeding disorders by:

- Collaborating with advocacy groups on the Light It Up Red campaign by illuminating public landmarks across the globe, including Boston's Zakim Bridge, the Wrigley Building in Chicago, the Wells Fargo Duke Energy Building in Charlotte, and the Richmond Science Museum in Richmond

- Sponsoring and co-hosting local events that include educational and science-focused family activities, in partnership with U.S. advocacy groups

To learn more about hemophilia and how to support the global hemophilia community, visit www.wfh.org.

About Bioverativ, a Sanofi company

Bioverativ, a Sanofi company, is dedicated to transforming the lives of people with hemophilia and other rare blood disorders through world-class research, development, and commercialization of innovative therapies. Bioverativ is committed to actively working with the blood disorders community, and its hemophilia therapies when launched represented the first major advancements in hemophilia treatment in more than two decades. For more information, visit www.bioverativ.com or follow @bioverativ on Twitter.

April 18, 2018
Thepharmaletter.com

Positive ICER Final Report on Hemophilia A Treatment Hemlibra

The US Institute for Clinical and Economic Review has released a Final Evidence Report and Report-at-a-Glance on Hemlibra (emicizumab), from Roche subsidiary Genentech, for the prevention of bleeds (prophylaxis) in a subset of individuals with hemophilia A who have inhibitors to the clotting protein Factor VIII.

The ICER's report was reviewed at a public meeting of the New England Comparative Effectiveness Public Advisory Council (new England CEPAC), where a majority of the Council voted that evidence suggests a net health benefit of emicizumab compared to either no prophylaxis or prophylaxis with bypassing agents, therapies commonly used in patients with inhibitors. The Council also emphasized the drug's benefits beyond those captured in clinical trials, including simpler therapy administration, reduced caregiver burden, and patients' increased ability to participate in work, school, or other activities.

In addition to the benefits that emicizumab offers patients, the ICER's report also found that the drug lowers overall costs of treatment for patients with hemophilia A and inhibitors as compared to current therapies.

"Emicizumab is an exciting innovation. It addresses unmet clinical needs in a group of patients with a very high burden of illness, while producing overall cost savings in the health system," noted Dr David Rind, ICER's chief medical officer.

"However, emicizumab can be cost-saving at a very high price only because it is being compared to the huge costs currently associated with treating hemophilia. High drug prices, paired with an insurance structure that often requires significant patient cost sharing, results in overwhelming financial burdens for families year after year – so extreme that even a cost-saving treatment like emicizumab likely won't prevent these families from reaching their out-of-pocket maximum payment. Payers, manufacturers, and policy makers must seek new approaches to address financial toxicity across the hemophilia landscape," he added.

Policy implications

Following the voting session during the New England CEPAC meeting, a policy roundtable of experts including patient representatives, clinical experts, public and private payers, and drug manufacturer representatives convened to discuss the implications of the evidence for policy and practice. Key recommendations stemming from the roundtable discussion include:

- In situations where emerging therapies appear cost-saving at a high price only because the existing standard of care is so expensive, reasonable value-based pricing for new treatments requires consideration of a new paradigm for "shared savings" between innovators and society – preserving the profit incentive for developing more cost-efficient therapies while slowly decreasing the overall cost of care.
- In assessing the value of treatments for hemophilia, payers should be aware of important benefits and contextual considerations that are not typically captured in cost-effectiveness analyses.

- As leaders in working with manufacturers and other stakeholders to develop core sets of patient-important outcomes for clinical trials, hemophilia patient organizations should continue to advance their work in this area and serve as mentors for other groups seeking to introduce more patient-centric outcomes in clinical research targeting other diseases.
- Given that emicizumab may gain indications for broader use, indication-specific pricing will likely be essential to tailor the price to reflect the clinical and economic value of the drug in different patient populations.