Did You Know?

The Neuropathy Action Foundation is encouraging patients or physicians who are having trouble obtaining intravenous immune globulin (IVIG) to report it to the FDA as soon as possible by calling (800) 835-4709 or emailing CBERProductShortages@cber.fda.gov.

Research

New Target Identified for Scleroderma Therapy

Investigators at Northwestern University Feinberg School of Medicine have identified the molecule Egr-1 (early growth response factor 1) as a new therapy target for scleroderma, an autoimmune disease for which there currently is no cure. Affecting an estimated 300,000 people in the U.S., most frequently young to middle-aged women, the disease causes progressive thickening and tightening (fibrosis) of the skin and also can lead to serious internal organ damage, and sometimes death.

John Varga, MD, professor of medicine and dermatology at Feinberg and a physician at Northwestern Memorial Hospital, led a research team that included Northwestern scientists from pathology, plastic surgery, immunology, and pulmonary and critical care medicine. In one study, the team reproduced scleroderma in mice to show that the levels of the protein Egr-1 become highly elevated in the scar tissue. In a second study, the team used mice where the gene for Egr-1 was genetically deleted to demonstrate protection from the development of skin and lung fibrosis, in contrast to the genetically normal mice. Because the understanding of scleroderma and fibrosis represents a major unmet medical need, fresh insights into the disease process might open the door for novel therapies.

“The implications of our discovery are broad-ranging because fibrosis, or scarring, underlies not only scleroderma but also other more prevalent diseases such as pulmonary fibrosis, kidney fibrosis, liver cirrhosis, radiation-induced scars and many others,” says Dr. Varga. “The role of Egr-1 in fibrosis that we have identified is likely to apply to all of these conditions.”

These findings, along with similar research findings from the University of Pittsburgh School of Medicine, were published in the American Journal of Pathology.

Healthcare

HealthWell Foundation Launches SLE Fund

The HealthWell Foundation, a nonprofit organization providing financial assistance to insured patients facing a variety of chronic and life-altering illnesses, has launched a new fund to support treatment of systemic lupus erythematosus (SLE), the most common form of lupus. The fund provides copayment assistance to people who are living with SLE who cannot afford the high-cost medication. “Critical to taking advantage of the latest therapeutic option for any disease is the ability to afford that option,” said HealthWell Foundation President Mary P. Sundeen. “As a direct result of the generosity of our donors, the HealthWell Foundation stands ready to reduce the cost-sharing obligations that many insured patients face when trying to access gold-standard and recently approved medications.” Application information for the SLE fund, as well as information on making a financial donation to support this and other funds, can be found at www.HealthWellFoundation.org.
Research
Daclizumab May Help Treat MS

Results from a Phase II clinical study show that the addition of daclizumab to interferon beta (IFNB) led to a significant reduction in the number of new or enlarged multiple sclerosis (MS) lesions when compared to IFNB alone in patients with active relapsing forms of MS. The trial, called CHOICE, also showed that daclizumab led to an increase in a subset of the natural killer (NK) cells that help regulate the immune system.

Daclizumab is a humanized monoclonal antibody that binds to CD25, a high-affinity receptor that is expressed at low levels on resting T cells, which are a type of immune cell, and at high levels on T cells that can become activated in response to autoimmune conditions such as MS. In the study, daclizumab 2mg/kg was administered subcutaneously every two weeks in combination with IFNB, which reduced the number of new or enlarged gadolinium contrast-enhancing lesions (Gd-CEls) by 72 percent versus IFNB therapy alone. The presence of Gd-CEls is thought to indicate inflammation within the central nervous system that corresponds with MS disease activity. In addition, treatment with daclizumab resulted in a seven- to eightfold increase of CD56 NK cells, which was associated with a decrease in disease activity.

Phase II study results provided evidence for Biogen Idec and Facet Biotech to continue the development of daclizumab in two registrational trials in MS. The Phase IIb SELECT trial is evaluating the efficacy and safety of monthly subcutaneous daclizumab as a monotherapy versus placebo, and is currently enrolling patients. The Phase III DECIDE trial is expected to be initiated in the second quarter of 2010.

Medicines
FDA Approves Shire Autoimmune Drug

Shire’s Firazyr (icatibant) has been approved by the U.S. Food and Drug Administration (FDA) to treat acute attacks of hereditary angioedema (HAE) in patients ages 18 years and older. HAE, which affects fewer than 30,000 people in the U.S., results from improper function of C1 inhibitor, a protein that regulates how certain immune system and blood-clotting pathways function. Individuals with the condition can develop rapid swelling of the hands, feet, limbs, face, intestinal tract and other internal organs, which can lead to disfigurement, disability and death. “Firazyr provides a new option to treat acute attacks of HAE and, because it can be self-administered through an injection in the abdominal area, patients can treat themselves upon recognition of an HAE attack,” says FDA Office of Drug Evaluation II Director Curtis Rosebraugh.

Research
“Bouncer” Protein Halts Rheumatoid Arthritis

Researchers at the Feinberg School of Medicine have figured out how the immune cells of rheumatoid arthritis (RA) patients become hyperactive and attack their joints and bones. They found that the cells lose their “bouncer,” a burly protein that keeps immune cells from going into their destructive mode through the cartilage and bone. When the scientists developed and injected an imitation of the protein into an animal model of RA, it halted the disease progress. The findings were reported on in Arthritis & Rheumatism.

December-January 2012
Did You Know

**Education**

IDF Launches Nursing Course on PIDD and IG Therapy

The Immune Deficiency Foundation now offers a free accredited online continuing education (CE) course for nurses. The five-credit CE course will consist of four presentations that will focus on the nurse’s role with IG therapy, PIDDs and the difference between subcutaneous immune globulin (SCIG) and intravenous immune globulin (IVIG). The presentations include:

- **Overview of IG Therapy and Disease States in Which It Is Utilized**, by Jordan Orange, MD, PhD, University of Pennsylvania School of Medicine, Children’s Hospital of Philadelphia;
- **Primary Immunodeficiencies, Combined T-Cell and/or B-Cell Immune Defects**, by Mark Ballow, MD, SUNY Buffalo School of Medicine and Biomedical Sciences, Women and Children’s Hospital of Buffalo;
- **Intravenous Immunoglobulin Therapy (IVIG)**, by Kristin Epland, MSN, FNP-C, Midwest Immunology Clinic, Plymouth, Minn.; and
- **Subcutaneous Immunoglobulin Therapy (SCIG)**, by M. Elizabeth Younger, CRNP, PhD, Johns Hopkins University, Baltimore, Md.

The course is sponsored by an unrestricted educational grant from CSL Behring. To register, interested nurses can go to [http://primaryimmune.org/healthcare-professionals/continuing-education-course-for-nurses](http://primaryimmune.org/healthcare-professionals/continuing-education-course-for-nurses).

**Research**

Celiac Disease on the Rise in the U.S.

Two studies show that celiac disease is on the rise in the U.S. One study suggests that nearly five times as many people have celiac disease today than during the 1950s. Another report says that the rate of celiac disease has doubled every 15 years since 1974. The disease is now believed to affect one in every 133 U.S. residents.

Celiac disease is an inherited autoimmune gastrointestinal disorder that causes the body’s immune system to attack the small intestine, which compromises the body’s ability to digest food and extract vital nutrients. Researchers believe that the disease is increasing for the same reason other autoimmune diseases are on the rise: Our Western environment is overly clean and sanitized. According to Carol McCarthy Shilson, executive director of the University of Chicago Celiac Disease Center, the “hygiene hypothesis” is that people in industrialized countries are more at risk for celiac disease because their bodies have not had to fight off as many diseases. Another version of the hypothesis reasons that the cleanliness of industrialized society has caused a fundamental change in the composition of the digestive bacteria contained within the gut.

**Hotline**

First Psychologist Hotline Debuts

Call for Therapy is a new 24/7 platform where patients and psychologists can find each other on demand in real time. Instead of someone having to locate a psychologist, make an appointment and then wait to see the doctor, they can call the hotline for instant advice and treatment over the phone. David Gonen, MD, president of Call for Therapy, says: “We found people were having trouble using the old-fashioned therapy system. Our service gives you someone to guide you through your situation — someone who is understanding, professional and there expressly to listen to you.” In addition to a hotline that can be called at (888) 537-6403, Call for Therapy is a live community at [www.CallforTherapy.com](http://www.CallforTherapy.com).
Scientists at Duke University Medical Center have discovered a new way to fight inflammation using molecules called polymers to mop up the debris of damaged cells before the immune system becomes abnormally active. The discovery, published August 15 in the journal *Proceedings of the National Academy of Sciences*, offers a new approach to treat inflammatory autoimmune disorders such as lupus and multiple sclerosis, which are marked by an overactive immune response.

The idea for the new approach stemmed from earlier findings that showed dying and diseased cells spill nucleic acids (the building blocks of life that include DNA and RNA) that then circulate at high levels in the bloodstream and send powerful signals to the immune system that something is amiss. Once activated, the immune system launches an attack to fight whatever caused the cell damage. Under normal circumstances, this inflammatory response eventually restores order. But, in some cases, the inflammatory response becomes persistent and out of control, leading to tissue damage and causing symptoms such as fever and pain.

Working to interrupt this cycle, the Duke scientists focused on a set of molecules called nucleic acid binding polymers that were designed to infiltrate the nucleic acid inside of cells and deactivate specific immune triggers. They found that because the inflammatory nucleic acids are outside of cells, whereas DNA and RNA normally function inside cells, that the polymers could bind to the external nucleic acids without disrupting intracellular functions of DNA and RNA.

The approach worked in experiments on mice. And, it is believed that it has numerous potential applications, not only for autoimmune disorders, but for acute tissue damage of several bacterial and viral infections, shock and injuries. Patents have been filed on the finding, and the researchers are pursuing the development of therapies.

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**Research**

**New Approach Found to Treat Inflammatory Autoimmune Disorders**

GlaxoSmithKline is moving forward to develop and commercialize a new gene therapy for adenosine deaminase deficiency-severe combined immune deficiency (ADA-SCID), which is also known as “bubble boy disease.” The investigational gene therapy uses gene transfer technology in which stem cells are harvested from the patient’s body, the correct form of the gene is inserted into the cell, and the cells are then reintroduced to the patient. GSK licensed the investigational gene therapy from the San Raffaele Telethon Institute for Gene Therapy in Milan, Italy, in 2010, and it has recently signed a two-year, $7.7 million deal with Italian biotechnology company MolMed for it to develop a production process for the gene therapy.

ADA-SCID is caused by the alteration of a single gene that prevents the body from producing the ADA enzyme, which helps create disease-fighting immune cells. Patients who have the condition can’t fight bacteria or viruses. Treatment is usually a bone marrow transplant from a donor, but even when the stem cells come from a closely matched or related donor, the risk of rejection remains. Using the patient’s own cells poses less of a risk of immune rejection compared with bone marrow transplants.
Insurance

Insurance Premiums Up 9 Percent in 2011

Average annual insurance premiums for employer-sponsored family health coverage increased to $15,073 in 2011, up 9 percent from 2010, according to the Kaiser Family Foundation/Health Research & Educational Trust (HRET) 2011 Employer Health Benefits Survey. On average, workers pay $4,129 and employers pay $10,944 toward those annual premiums. The study also finds 31 percent of covered workers are in high-deductible health plans, facing deductibles for single coverage of at least $1,000, including 12 percent facing deductibles of at least $2,000. Covered workers in smaller firms (three to 199 workers) are more likely to face such high deductibles, with half of workers in smaller firms facing deductibles of at least $1,000, including 28 percent facing deductibles of $2,000 or more.

The 13th annual Kaiser/HRET survey of small and large employers provides a detailed picture of trends in private health insurance costs and coverage. This year’s survey also looked at employers’ experiences with several already implemented provisions of the 2010 health reform law affecting employer coverage. In particular, the survey estimates that employers added 2.3 million young adults to their parents’ family health insurance policies as a result of the health reform provision that allows young adults up to age 26 without employer coverage on their own to be covered as dependents on their parents’ plan.

Medicines

Octagam 5% Returns to Market in U.S. and Europe

The U.S. Food and Drug Administration (FDA) and the Committee for Medicinal Products for Human Use in Europe have approved the return of Octagam 5% (human normal immunoglobulin 50 mg/ml) to the market. Marketing authorization was suspended in August 2010 in the U.S. and in September 2010 in Europe after a massive voluntary recall by Octapharma due to an increase of thromboembolic events (TEEs). To determine the biochemical root cause(s) of the TEEs in concerned Octagam batches, Octapharma conducted a number of tests, which identified FXIa as the major procoagulant activity. In response, FXIa was successfully removed through corrective and preventive measures in the manufacturing process. Now, Octapharma has implemented post-marketing studies to ensure product safety.

“We are extremely pleased that the FDA has authorized the market return of Octagam 5%,” said Octapharma USA President Flemming Nielsen. “Our collaboration with the FDA over the last year has enhanced awareness of the industry-wide concerns regarding procoagulant activity and TEEs. Octapharma has always believed that patient safety comes first, so the Octagam 5% that we will return to the U.S. market ... will enjoy the highest level of safety scrutiny available today and the same level of tolerability that our patients have come to expect from Octapharma therapies.”
**Insurance**

**Twelve New Diagnoses Added to Compassionate Allowances List**

In July, 12 new medical diagnoses were added to the Social Security Administration’s Compassionate Allowances program. Established in 2008 with a list of 50 diseases, the program expedites review of applications for disability benefits by quickly identifying those that meet Social Security’s standards. These additions are important for people with rare diseases who, historically, have encountered problems when applying for assistance because those making decisions are not familiar with their diseases. With patient advocates submitting diseases for consideration, along with input from medical experts at the National Institutes of Health and leading medical centers, there are now 100 diseases on the list. For a complete list of compassionate allowances, go to http://www.ssa.gov/compassionate_allowances/conditions.htm.

**Insurance**

**Initiatives to Lower Medicaid Costs and Improve Care**

Twelve New Diagnoses Added to Compassionate Allowances List

Did You Know?

Because rheumatoid arthritis (RA) is hard to diagnose in its early stage, doctors must diagnose based on factors that are clearly related with the disease, including swollen areas in the wrist, hand or finger joints; morning stiffness in the joints for at least one hour; swelling around three or more joints at the same time; X-ray changes in the wrists and hands; arthritis affecting symmetrical joints on both sides of the body; and a high level of rheumatoid factor in the blood.

— *The American College of Rheumatology*
Insurance

Part D Drug Premiums to Decrease in 2012

The average monthly premium for Medicare Part D prescription drug coverage will decline in 2012, according to the U.S. Department of Health and Human Services (HHS). The average monthly drug plan in 2012 will cost about $30, approximately $1 lower than 2011 averages. In addition, nearly 900,000 Medicare beneficiaries whose prescription drug purchases place them in the so-called “doughnut hole” have benefited from the new 50 percent discount on covered name-brand drugs.

“The marketplace created by the Medicare Part D structure continues to be vibrant and highly competitive,” said Mary R. Grealy, president of the Healthcare Leadership Council. “To succeed, Part D plans have to keep premiums affordable and provide value, and seniors are benefiting.”

Legislation

Supreme Court to Rule on Healthcare Law Constitutionality

In September, the Justice Department said it would forgo an appeal to the full U.S. 11th Circuit Court of Appeals in Atlanta, which ruled 2-1 in August that the healthcare reform law’s requirement that people buy health insurance is unconstitutional. The suit before a three-member panel of the court was brought by 26 states, the National Federation of Independent Business and several individuals. Opponents of the law had expected the government to ask for the so-called en banc hearing to delay a ruling by the U.S. Supreme Court until at least 2013. The decline of the appeal and the subsequent request by the Obama administration for the Supreme Court to hear the case clears the way for arguments on the constitutionality of the healthcare law in the spring and a decision by June, in time to land in the middle of the 2012 presidential campaign.

Legislation

Partnership for Patients Meeting Participant Goal

Nearly 4,500 organizations — including more than 2,000 hospitals — have pledged their support for Partnership for Patients, meeting the Obama administration’s hospital goal in less than three months. Partnership for Patients aims to reduce preventable harm in hospitals by 40 percent in the next three years, including a reduction in the number of preventable in-hospital medication errors, central-line associated bloodstream infections, falls and other injuries. It also seeks to help patients heal successfully after discharge, targeting unnecessary return visits to reduce 30-day hospital readmissions by 20 percent over the next three years. According to the U.S. Department of Health and Human Services, the partnership has the potential to save up to $35 billion in healthcare costs, including up to $10 billion for Medicare. And, over the next 10 years, the partnership could reduce costs to Medicare by about $50 billion and result in billions more in Medicaid savings.

People and Places in the News

Rebecca H. Buckley, MD, has been elected as a member of the National Academy of Sciences for her life-saving research in pediatric immunological diseases. Dr. Buckley is the J. Buren Sidbury Professor of Pediatrics and professor of immunology at Duke University Medical Center.

Thermo Fisher Scientific Inc. has acquired Phadia, a global leader of blood tests for the clinical diagnosis and monitoring of allergies and autoimmune diseases.

Trine Jorgensen, a Cleveland Clinic Department of Immunology researcher, has received a $1.1 million grant from the U.S. Department of Defense (DoD) to study why lupus is so much more prevalent in females than males. She is one of two researchers nationally to receive a DoD grant for lupus research. The other $1.2 million grant went to a researcher with Boston’s Brigham and Women’s Hospital.
Legislation Protects the Treatment of Rare Diseases

Two new bipartisan bills, H.R. 2672 and S. 1423, both titled Preserving Access to Orphan Drugs Act, have been introduced to safeguard the development of drugs and therapies that treat patients with rare diseases by eliminating barriers to innovation. Under the current law, most plasma protein therapies, despite being approved for marketing by the U.S. Food and Drug Administration solely for the treatment of one or more rare diseases or conditions, would not qualify for the orphan drug exclusion from the annual pharmaceutical fee. In the U.S., a rare disease or condition is generally defined as one affecting fewer than 200,000 people. The new bills would modify the law to ensure that manufacturers can exclude the sale of all drugs and therapies that are FDA-indicated solely for the treatment of one or more rare diseases from their annual fee liability.

“The majority of patients who rely on plasma protein therapies are coping with a very rare disease for which no alternative treatment exists,” said Julie Birkofe, Plasma Protein Therapies Association senior vice president, North America. “This legislation preserves access to therapies and drugs for rare disease patients and helps to ensure that research and development into new therapies for orphan diseases continues to be encouraged and remains unencumbered.”