AMERICAN PORPHYRIA FOUNDATION

1st Quarter, 2013

National Porphyria Awareness Week April 14-20

The challenge of living with porphyria starts with how little is known about it among friends, family and the medical community. Although the APF staff uses many means to promote porphyria education and awareness, it is YOU who have the most effective and powerful opportunities to enlighten your medical communities and the public sector. During ***National Porphyria Awareness Week*** April 14-20, 2013 (NPAW), YOU have the opportunity to enhance porphyria awareness in your sphere of influence. The APF can help you accomplish these goals by providing materials: Porphyria Brochures, a *Porphyria Live* DVD, Fact Sheets, Powerpoint Presentations, Ideas for Grand Rounds, Seminars, Health Fairs, Press Releases, Coverage for local Newspapers and Television. More suggestions:

- SHARE knowledge about porphyria at your doctor's offices and local hospitals. You might suggest that they host a seminar or grand rounds on porphyria; ask if there is a local meeting where you can hand out materials.
- ASSIST at medical conventions or health fairs to educate laypersons and physicians on porphyria.
- TELL your story to local media; television, newspapers, community magazines are looking for human interest stories about people who have encountered a major illness and have undertaken the challenge.
- VOLUNTEER your talents or skills to help achieve the educational programs of the APF. For example, donate one of your paintings, sculpture, computer expertise, business acumen etc. for our fall raffle or to help APF.
- HOLD a community race, car wash or other fund raising activity.
- HONOR your loved one with a gift to the APF for a birthday, anniversary, holiday or memorial tribute.
- WRITE a letter to friends and family asking them to consider making a donation to the APF.
- ASK your local newspaper or community newsletter to include a story about you and porphyria.
- LEARN how to be an advocate in your daily life. There are many opportunities to share knowledge of porphyria.
- BEFRIEND your physicians and they will share their new found knowledge of the disease.
- HOST a patient meeting and share your experiences and your successes in advancing porphyria awareness.

Photos: Grace Warfield, Richard Drew and Charlie Johnson manning APF exhibit booths at medical conventions. We thank Ellen Barrows, Danielle Frazzine and Joe Mayfield for manning the APF booth and distributing porphyria educational materials to doctors at the American Hematology Society convention in Atlanta. ***Thanks!***

FDA Honors Desiree Lyon Howe

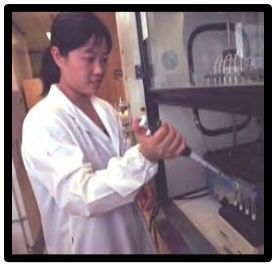
January 4, 2013 marked the 30th anniversary of the enactment of the **Orphan Drug Act** (ODA). In recognition of this important legislation and the accomplishments of members of the rare disease community for their efforts to support and develop rare disease treatments, the FDA highlighted

Heroes who made clinical, research, advocacy and regulatory contributions over these many years and were very instrumental in enactment of the ODA**.** Desiree was honored as one of the FDA's 30 Heroes because of her major role in the enactment of the OPD, her powerful Congressional testimony on the need of the OPD and her involvement in bringing Panhematin® as the very first Orphan Drug. The event included posters of the Heroes which will be displayed around the FDA and NIH throughout the year, as well as presentations by the FDA commissioner, Margret Hamburg; Director of the Office of Orphan Product Development, Dr. Rao Gaytan; Dr. Steven Groft, Director of the Office of Rare Disease. NORD founder, Abbey Meyer, gave an overview of the unusual events that led to Ronald Regan signing the ODA into law. They also aired an episode of the television series, *QUINCY,* starring Jack Klugman, whose brother, Maurice, had an incurable rare disease with no hope of a treatment. The brothers were adamant that the ODA must be passed to give people with are rare disease a treatment. At the time, the ODA was being detained in the Senate, so they created an episode featuring a Senator halting the ODA approval. In the episode, *QUINCY* led a filmed march on Washington using a cast of real patients with rare diseases using crutches, wheel chairs and in every state of illness. Interestingly, when Klugman was told that the "real" actors could not march in the freezing D.C. weather, he arranged for the filming to take place in a "mock-up" of the Capitol in Pasadena, California. The episode was so powerful and moving that the ODA was signed into law shortly after the airing. The ODA legislation provided incentives for pharmaceutical companies, which encouraged the production of rare disease or orphan drugs, like tax credits and product protection. Prior to the ODA, only 10 treatments for rare diseases existed and now there are over 400 treatments, with Panhematin® becoming the first Orphan Drug and hopefully *SCENNESSE*, Clinuvel's drug for EPP, as the next Orphan Drug. Desiree said, "*When the FDA Commissioner commented that 30 million people were affected by the ODA, I was teary and overjoyed, particularly because the APF was in the forefront of this life-changing legislation. There was also much conversation about our efforts to bring Panhematin® as the first Orphan Drug. It is exciting to think that we may have another treatment nearing approval."*

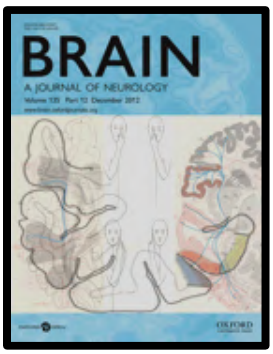
Panhematin® Sale RECORDATI S.p.A, a major pharmaceutical company in Italy, recently announced their acquisition of all rights concerning a portfolio of products from Lundbeck LLC, which included Panhematin®, the only commercially available therapy for the acute porphyrias in the United States. It now will be marketed in the U.S. by RECORDATI Rare Diseases. RECORDATI was founded in 1926 as a small family apothecary overseen by herbalist, Giovanni Recordati, who helped transform it to a leading modern drug-based scientific pharmaceutical company with a large portfolio of drugs. Their addition of Panhematin® to their list of drugs did not change the means you and your doctor have in procurring Panhematin®. However, if there are any changes, we will advise you immediately. If you have further questions, please contact the APF. Read about Panhematin® on the APF website and watch Karen Eubanks receive an infusion of Panhematin® on the *Porphyria Live* DVD: http://www.porphyriafoundation.com/testing-and-treatment/medications-for-porphyria/panhematin

"Pierach's Soup" The 30th Anniversary of the Orphan Drug Act highlighted Panhematin® as the first Orphan Drug. The part the APF played in this process brought attention to the drug. But there was much more to the story than was told at the celebration. There was a time when Dr. Claus Pierach's laboratory was the only lab in the world "distilling" their homemade Hematin, which the FDA called, "Pierach's Soup." Other experts, like Drs. Montgomery Bissell, Herbert Bonkovsky, Joseph Bloomer and Karl Anderson were making hematin for their patients until it was adopted by Abbott Laboratory, its first pharmaceutical company home. Later hematin/Panhematin was sold to Ovation Pharmaceutical and then Lundbeck Pharmaceutical and most recently RECORDATI, an Italian drug company that also owns Heme Arginate/Normosang. What a great day that was in 1983 and an even greater one now that thousands of patients are receiving this life saving therapy. If you want your physician to receive information on Panhematin® or acute porphyria, the APF provides free a comprehensive physician packet written by porphyria experts. It is easy. Contact the APF with your doctor's contact info: 1.866 APF.3635 or porphyrus@aol.com

Porphyria Experts Need You To Answer Questions The **Porphyria Research Consortium** comprised of esteemed porphyria experts, Drs. Karl Anderson, Montgomery Bissell, Joseph Bloomer, Herbert Bonkovsky, Robert Desnick and John Phillips, have been researching porphyria for decades, but they have never had the opportunity to learn so much about the porphyrias until now because the Consortium allows them to cooperate



in their research and exchange data easily. The Consortium first created an NIH supported **National Porphyria Registry**, which enables the expert/researchers to contact you directly and confidentially to ask you very important research questions about your porphyria. Some of you have already joined the Registry and answered the survey, however, more questions have been added and more participants are needed. Since these physician-researchers have dedicated their lives to us for over 30 years, educating primary care doctors, writing medical text books, consulting with your doctors, performing research, etc., we can assist them in return by taking a few minutes to join the Registry. After you have joined the Registry, you will be contacted by a research team member who will ask you to answer questions on a Research Survey. You can also participate in an important Longitudinal Study. <u>If you have already joined the Registry, please note that there is an additional survey available which will allow you to enter additional information about your medical history.</u> To participate in the Registry, please see the APF website: www.porphyriafoundation.com and locate the National Registry along the top line. Click on the tab and locate the Porphyria Consortium from the list of diseases and click on your type of porphyria. Register and begin answering the questions. The additional survey will take approximately 5-10 minutes to complete and will help researchers understand more about your specific porphyria. If you have forgotten how to login to your account on the Registry or have questions, please contact: Denise Shereff, Denise.Shereff@epi.usf.edu



If you are interested in the brain and porphyria, you may want to read *BRAIN, Journal of Neurology*. Some of the articles are not up to date but are interesting nonetheless.

**Nerve Function and Dysfunction in Acute Intermittent Porphyria:*
510 - 2519. 10.1093/brain/awn152

**Acute Intermittent Porphyria: Increased ALA-Synthase Activity During an Acute Attack*
93(2): 369-380 doi:10.1093/brain/93.2.369

**Sensory Action Potentials and Biopsy of the Sural Nerve in Neuropathy:*
101(3): 473-493 doi:10.1093/brain/101.3.473

**Experimental Porphyria and its Relationship to the Human Disease*:
90(4): 795-798 doi:10.1093/brain/90.4.795

Joining the Fight: My Mission to Make a Difference *"My name is* ***Jason Marcero,*** *and I am 39 years old and have X-linked protoporphyria (XLPP). Like many with this rare disease, my road to an accurate diagnosis was long, frustrating and also motivating. In fact, after years of working in science as an industrial chemist and a high school teacher – and simply wishing that someone in some lab would discover something to improve my quality of life – I am a bystander no longer. I have officially joined the fight against porphyria as a "nontraditional" Ph.D. student in biochemistry at the University of Georgia, where my research goals are to not only uncover and explain the technical characteristics of XLPP and other porphyrias, but to hopefully contribute to the development of future treatments, as well. My journey with porphyria began as an 18 month old when I endured my first reaction to sunlight at a small lake near my hometown of Brooklyn, Michigan. After suffering through many subsequent reactions of varying degrees later in childhood and into college, the only credible diagnosis was provided by an affected first cousin in the early 1990's: erythropoietic protoporphyria (EPP). This was medically confirmed (albeit incorrectly) by a gastroenterologist a couple of years later. I was then 22 years old and equipped with a B.S. in chemistry when I first took a more serious interest in the basic and clinical science behind my disease.*

More than 12 years and several unexpected personal and professional twists later, I was a high school chemistry teacher and basketball coach lying in a hospital bed in Greenville, South Carolina, as the result of gallbladder 'sludge' that left me jaundiced and photosensitive after just seconds of sun exposure (in November!). After my body managed to clear the blockage, I was referred to Dr. Herbert Bonkovsky in Charlotte, North Carolina. My first appointment with Dr. Bonkovksy was in 2009, and though he understood the reasons for my original EPP diagnosis, my family history and blood work were not typical of EPP, so he withheld his own judgment. Indeed, genetic testing two years later revealed XLPP – the most recently identified type of porphyria. The results of this test left me more intrigued about my disorder than ever, and I was determined to finally do something about it. In 2011, I asked Dr. Bonkovsky about the plausibility of becoming a porphyria researcher. He was visibly enthusiastic about my willingness to change careers for such a personal cause, and we discussed graduate programs that would be a potentially good fit for my training. Less than a year later, I chose the University of Georgia, where I now work under the tutelage of Dr. Harry Dailey. In collaboration with Dr. John Phillips at the University of Utah, we are seeking to discover the as-yet-unknown biochemical aspects of XLPP and other porphyrias. Though my first lab project in Dr. Dailey's lab is still in its infancy, I have already learned much from two meetings I have had the fortune of attending in the past six months: the Tetrapyrrole Gordon conference in Rhode Island last July and an APF regional conference in Atlanta in December. I have the APF to thank for each of these opportunities. As I move forward in my doctoral studies, I now hope to travel to the international porphyria conference in Switzerland this May to continue to share and build upon my first-hand knowledge of porphyria."

First Gene Therapy The Digna Biotech company has launched clinical trials in Spain for the first gene therapy for the treatment of acute intermittent porphyria. This biotechnological company is coordinating phase I clinical trials in collaboration with the Applied Medical Research Centre (CIMA), part of the Universidad Hospital of Navarra, and the 12th of October Hospital in Madrid. The aim of this research is to evaluate the safety of and obtain preliminary data about the efficacy of a gene therapy product (the rAAV2/5-PBGD vector). The first stage will last a year and will be undertaken with eight patients, who will receive doses in stages to test tolerance to the treatment. If the results are positive, stage II will be initiated with a larger group of patients. It is estimated that the therapy could be available within approximately five years.

Dr. Jesús Prieto, Scientific Director of the Area of GeneTherapy and Hepatology at CIMA and lead researcher in the study, pointed out that "the clinical trials, arising from translational research, were carried out because of the need to find a suitable medical solution to acute intermittent porphyria, a devastating rare disease that currently lacks a cure." According to Dr. Rafael Enríquez de Salamanca from the 12th of October University Hospital and expert in the treatment of these patients, "these clinical trials for treating a minority disease open the door for the application of gene therapy in treating many other, more common, diseases." The Dutch biopharmaceutical company, uniQure, holds the worldwide exclusive rights for the rAAV2/5-PBGD vector and is responsible for the subsequent stages in the clinical development of the product. Their Vice-President, Carlos Camozzi, stated that "in the XXI century, gene therapy has been validated by the European Medication Agency as a safe and effective therapeutic option for hereditary diseases. These gene therapy clinical trials with patients suffering from Acute Intermittent Porphyria are the result of the joint efforts by the academy and industry within the AIPGENE consortium."

Letters Make A Difference The APF often asks our members to write letters for a campaign that will help you. Below are great examples of member letters that have a made a big impact:

To the FDA: "*My name is **Pierre Mouledoux**, and I was diagnosed with Erythopoietic Protoporphyria (EPP) 25 years ago at age 2. Imagine that almost every aspect of your daily life revolves around your inability to spend more than an hour or less in daylight, and if you violate that hour rule, your next few days are a living hell. I am referring to living with EPP. Family vacations, team sports, Boy Scout camping trips, and college were all a challenge. It was and still is embarrassing to tell a potential spouse, friend, employer or acquaintance why you can't go in the sun or to the beach or on a fishing trip because of EPP.*

As an APF member, I learned about SCENESSE, Clinuvel's new treatment for EPP, but I was too late to participate in the Phase II trials. Since desperate times call for desperate measures, I volunteered for the Phase III trials. Of course, I was hesitant to try the implant not knowing whether I received the real drug or the placebo, but the weekend following the implant, I went offshore fishing in direct sunlight from 7am to 2pm and experienced zero problems… not an itch, tingle, or swelling. I knew I had received the real drug, because IT WORKED! After that experience, you could not keep me indoors. All activities "normal" people take for granted, I was finally enjoying without repercussions from too much sun exposure; pheasant hunting in Oklahoma from sunup to sundown, fishing from sunup to mid-afternoon in the Gulf of Mexico, Ole Miss Football games in outdoor stadiums and long walks along the levees in New Orleans. The past six months have been some of the most enjoyable for me, my wife and family. I believe I received the "real" drug and all of its benefits with no complications or side effects. It has always been my dream to be able to go fishing longer than a couple of hours. It has always been my dream to be able to lie out at the beach for hours on end. It has always been my dream to watch a COMPLETE football game in an outdoor stadium. It has always been my dream to hunt from sunup to sundown. And now with SCENESSE, all of those dreams have become reality. I and thousands of other sufferers of EPP recommend the FDA to approve Clinuvel's SCENESSE and implore the FDA to do so in an urgent fashion, because we are sick of living in shadows."

To Medicare: "*My name is **Rebecca Thompson**. I was diagnosed in 1989 with Acute Intermittent Porphyria. At that time, I was working full-time and had private insurance. With private insurance, I was able to receive Panhematin® monthly in the hospital. After 13 years of monthly infusions in the hospital, my insurant suggested that I continue these treatments at home, as that would be more beneficial financially and physically. I enjoyed the comfort of my own home for seven years, very successfully receiving infusions with home health care nurses. Three years ago, I had to go on disability as I was no longer able to complete the tasks of my job. When I went on disability, my insurance suddenly became Medicare. At this point, my life, my care and my illness drastically changed. Medicare would no longer allow me to receive treatments at home. Instead, I had to return to the hospital to receive treatments. This change is much more expensive financially and is physically harder on my body. I am neither an inpatient nor an outpatient I am categorized as an outpatient in a bed which changes the level of care that I receive at the hospital. The total cost of my treatments and infusions at home was $600 per month. The hospital cost is $6-$9000 per month. Granted I do not have to pay that exorbitant amount because Medicare negotiates that cost; however, my co-pay is ranging between $500- $700 per month. For the seven years that I have received my treatments at home I never contracted the flu or any disease. However, this month in the hospital, I contracted pneumonia and a double ear infection because of being around so many bacteria and viruses. To me the hospital is not a good place for porphyria patients to receive their prevention infusions. I feel that Medicare doesn't understand anything about Porphyria. Whenever I have called to get any clarification as to why they have made the decisions that they have made, no one has any answers. This is very frustrating and only serves to complicate an already bad disease and situation. Please make changes within Medicare to serve patients with the Acute Porphyrias. Under your care we are becoming financially destroyed, endangered in the hospitals and our quality of life is suffering."*

To the Congress: "*Dear Senator Hatch, My name is **Barbara M.** and I want to thank you for helping us with the 340 B Hospital Budgets cuts. If Congress puts rare disease treatments in this legislation, companies will not manufacture rare disease drugs. How can they create a drug for one price and then have to sell much of it to a hospital for less than it costs to make the drug. This may work well for companies that manufacture blockbuster medications but for those whose clients are few, this might be the end of the drug. I would ask that you continue to support any legislation that protects rare diseases and rare disease treatments. There are 30 million people who suffer from over 6000 rare diseases. I have a severe case of Porphyria Cutanea Tarda (PCT) a photosensitive disease, so I am one of those rare people. I must live in the dark and cannot go out in the light and am bled as a treatment. Surely we can find a treatment better than one that was used in the Dark Ages. Your help is appreciated."*