Congenital Hyperinsulinism International

Congenital Hyperinsulinism International: Your Advocacy Organization

Julie Raskin
#CHIFAM2019
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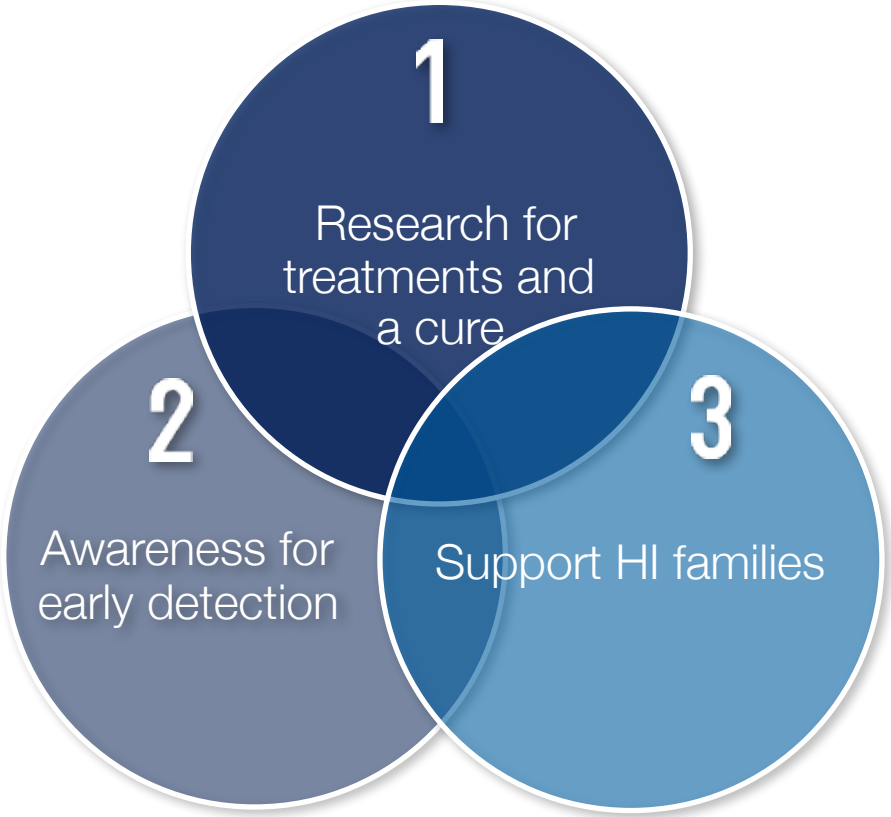
Congenital Hyperinsulinism International

What we do

To support HI research for better treatments and cures,
raise awareness of HI to reduce brain damage and death,
improve access to care and treatment for those with HI,
while providing a community for HI families.

Congenital Hyperinsulinism International

The Three Part Mission



Congenital Hyperinsulinism International

CHI Scientific Advisors

CHI SCIENTIFIC ADVISORS

Dr. Jean-Baptiste Arnoux, Necker Children's Hospital, Paris, France
Dr. Indi Banerjee, University of Manchester, Manchester, UK
Dr. Oliver Blankenstein, Charite Hospital, Berlin, Germany
Dr. Henrik Christesen, Odense University Hospital, Odense, Denmark
Dr. Louise Conwell, University of Queensland, Brisbane, Australia
Dr. Diva De León-Crutchlow, Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, US
Dr. Pascale De Lonlay, Necker Children's Hospital, Paris, France
Dr. Mark Dunne, University of Manchester, Manchester, UK
Dr. Sarah Flanagan, University of Exeter Medical School, Exeter, UK
Dr. Morey Haymond, Texas Children's Hospital, Houston, Texas, US
Dr. Khalid Hussain, Sidra Medical and Research Center, Doha, Qatar
Dr. Klaus Mohnike, Otto von Guericke University, Magdeburg, Germany
Dr. Andrew Palladino, Pfizer, New York, New York, US
Dr. Pratik Shah, Great Ormond Street Hospital, London, UK
Dr. Mark Sperling, Mount Sinai Hospital, New York, NY, US
Dr. Senthil Senniappan, Alder Hey Hospital, Liverpool, UK
Dr. Charles Stanley, Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, US
Dr. Paul Thornton, Cook Children's, Fort Worth, Texas, US
Dr. David Zangen, Hadassah Medical Center, Jerusalem, Israel

Working Together

Congenital Hyperinsulinism International

Research

- Secured funding from a private source for a pilot clinical trial of Exendin 9-39.
- Funded or funding 3 research projects for pilot studies on drug development for a treatment for glutamate dehydrogenase hyperinsulinism.
- Funded research for a pilot study on the bihormonal bionic pancreas for the treatment of diabetes post-pancreatectomy in children with congenital hyperinsulinism.
- Funded research for pilot study on the use of sirolimus to treat hyperinsulinism.
- Funded research towards precision medicine in treatment of congenital hyperinsulinism in infancy.
- Developed the HI Global Registry which will be a key research tool to advance an understanding of the natural history of the condition and new treatments.

Pilot Grant

RARING TO GO FOR CHI
Congenital Hyperinsulinism International

MILLION DOLLAR BIKE RIDE GRANT WINNERS 2018

RESEARCH TOPIC:

Vitamin E Supplementation in Hyperinsulinism/Hyperammonemia Syndrome

AWARD RECIPIENT:
Amanda Ackermann, MD, PhD

HOME INSTITUTION:
Children's Hospital of Philadelphia

AWARD AMOUNT:
$84,080

Hyperinsulinism/hyperammonemia (HI/HA) syndrome is the 2nd most common type of congenital HI. It is caused by activating mutations in glutamate dehydrogenase (GDH). Patients with HI/HA syndrome have fasting and protein-induced hyperinsulinemic hypoglycemia due to GDH over-activity in the pancreatic beta cells, which can be treated with diazoxide. However, these patients also have other medical problems due to GDH over-activity in other cell types, for which there is no treatment: hyperammonemia (high blood ammonia levels), seizures, and developmental delays. Vitamin E has been tested in human cell lines and in mice with activating GDH mutations and shows potential promise as a treatment for HI/HA syndrome. This is a two-part pilot clinical study involving children and adults with HI/HA syndrome to 1) determine if oral Vitamin E supplementation is well-tolerated and 2) determine if oral Vitamin E supplementation is effective in reducing hypoglycemia, hyperammonemia, and seizures. This pilot study will potentially lead to a larger and longer-term clinical trial evaluating Vitamin E treatment of HI/HA syndrome.

I am riding to increase awareness and research funding for patients with rare and complex diseases like hyperinsulinism, who need new treatment options.

RIDING FOR RESEARCH!

MILLION DOLLAR BIKE RIDE
RAISING MONEY FOR RARE DISEASE RESEARCH

Penn Medicine Orphan Disease Center

HI Global Registr

A Twenty-Year Journey to the HI Global Registry

A Patient-Powered Research Project Collecting Real World Data from Those Who Live with Congenital Hyperinsulinism

Isabel Calderón; BSc; Davelyn Eaves Hood, MD, MBA; Julie Raskin, MA
on behalf of Congenital Hyperinsulinism International

BACKGROUND

In 1999, a group of parents of children with congenital hyperinsulinism (HI) connected for the first time through a Yahoo listserv called Hyperins. They gathered online for camaraderie, support, and sharing of information. The Hyperins community kept track of members through an Excel spreadsheet for over a decade, collecting a handful of data elements about each child's condition.

Hyperins evolved into the globally-focused, nonprofit patient organization Congenital Hyperinsulinism International (CHI) in 2005, with a mission to improve the lives of people living with HI. Among many activities, CHI took over management of the Hyperins spreadsheet.

The evolution of Internet tools allowed CHI to consider a more powerful and secure method to gather data. The Agency for Healthcare Research and Quality asserts that "properly designed and executed, patient registries can provide a real-world view of clinical practice, patient outcomes, safety, and comparative effectiveness" (Gliklich, et al., 2014). CHI hypothesized that a sophisticated, convenient online place to collect structured data regarding the patient experience, reported by patients and caregivers around the world, would result in an innovative, powerful source of HI knowledge, with the potential to contribute to better treatments and outcomes for those affected by the condition.

METHODS

From 2010 to 2018, CHI, guided by an internationally-recognized group of advisors, worked on the necessary developmental phases to launch a patient registry. The work included evaluating existing rare disease registry models, exploring potential platforms, and creating a management and advisory structure. The latter included the formation of a steering committee of HI patients, patient advocates, researchers and expert clinicians from around the world. The registry's structure was created with drafting the research protocol, including the registry's objectives, performance indicators and participant consent materials.

A data dictionary of survey questions and structured responses was created and organized into 13 patient-reported surveys about the patient's experience with HI over their lifetime. These surveys include questions about contact details and demographics (such as age, sex and country of birth), as well as questions about diagnosis, medication management, diet and feeding, surgical procedures, other diagnoses, development and quality of life for the parent/guardian and participant (patient).

A website was designed. Informational materials were drafted, and an engagement strategy for recruitment and retention of participants was formed and executed prior to the launch of the Hyperinsulinism Global Registry (HIGR) on October 9, 2018.

CONCLUSION

The future of HIGR depends on continuing to involve and include the HI community. The HIGR team will continue to focus on engagement with the hope that participants all over the world will enroll in the registry, complete the full set of surveys, update them when appropriate, and take the longitudinal surveys that are meant to be retaken on a scheduled basis. The foundation for an HI natural history study has now been established with the launch of HIGR. With higher participation over time, HIGR and its published reports will become an increasingly reliable source for the research and clinical communities to better understand the natural history of HI from a real-world perspective.

HIGR Steering Committee

SURVEY	Type	# of Questions	CONTENT
Contact Information	Updatable	13	Basic contact info and preferences (GROB-compliant)
Demographics	Updatable	20	Key characteristics of the participant
Pregnancy	Data submitted once	13	Pertinent information about mother's pregnancy with participant
Birth	Data submitted once	27	Pertinent information about participant's birth
Diagnosis	Updatable	81	Detailed questions about how the participant was ultimately diagnosed with HI
Medication Management	Updatable	132	Current & past HI medication treatment(s)
Diet & Feeding Management	Updatable	32	Current & past feeding routes and regimens
Surgical Management	Updatable	44	Whether pancreatectomy was considered, and relevant details if surgery was performed, including glycemic outcomes
Other Diagnosis	Updatable	42	Commonly related diagnoses noted in the HI community, such as epilepsy, diabetes, pancreatic insufficiency, neurologic and other conditions
Glucose Monitoring	Longitudinal – every 6 months	26	Method and frequency of checking blood sugar levels
Developmental	Updatable	22	Growth & development as well as any therapeutic interventions
QOL (Parent/LAR)	Longitudinal – Annual	39	General, physical, social, emotional wellbeing & school/work, healthcare experience
QOL (Participant)	Longitudinal – Annual	42	General, physical, social, emotional wellbeing & school/work, healthcare experience, 14+ year old

RESULTS

As of June 23, 2019, 231 people have enrolled in HIGR, representing 34 countries and every populated continent. Of those registered, 200 participants have consented to the study, and 134 participants have begun completing surveys with 65 having completed all available surveys.

There are 52 infants (0-23 months of age), 86 toddlers (2-4 years old), 36 primary school age children (5-8 years old), 15 older children (9-12 years old), 14 teens (13-17 years old) and 28 adults (18+ years) currently enrolled in HIGR.

Early data analysis demonstrates (1) there are many types of HI including those from known and unknown genetic causes; (2) HI occurs together with a number of syndromes; (3) feeding issues are very common; (4) adverse effects are frequently experienced for those taking currently available medication such as diazoxide, octreotide (and its long-acting formulations) and sirolimus; and (5) hypoglycemia, the main problem caused by HI, is still a common feature of life for many who are receiving currently available treatments.

Congenital Hyperinsulinism International

Awareness

Since it's founding in 2005 CHI has:

- Organized 19 HI conferences and meetings around the world bringing together leading global HI specialists to share best practices and research.
- Widely shared and advocated for adoption of the PES Hypoglycemia Guidelines.
- Created the global HI and hypoglycemia awareness poster campaigns to save lives and prevent brain damage.
  The posters are available in19 languages.
- Created the *Be My Sugar, Stop the Lows, HI Never Sleeps, and Our CHI and many other social media* campaigns to save lives and prevent brain damage.
- Shared the patient experience in myriad ways with pharma/ biotech/genetic testing companies to help them develop new treatments and products.

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Support

- CHI has helped patients around the world receive life-saving medications, treatment and medical supplies. This year people have visited the CHI website from 123 countries.
- CHI has served as the global source of HI patient and family support.
- Support from CHI is available to the 1,400 people in the HI community around the world who are part of our online support group which is active almost 24 hours a day.
- With support from CHI, the Exeter Clinical Laboratory in the UK is providing genetic testing to patients all over the world suspected of having HI, and who do not have the ability to pay for the testing.
- CHI joined the GPED effort to have diazoxide included on the list of WHO Essential Medicines, and it was just added!

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Global is Key

HI affects people all over the world, every race and every ethnicity. Because we are rare, global reach is so important!

- CHI communicates with endocrinologists from 43 countries and people visit our website from 123 countries.
- Through our partnership with the University of Exeter, last year, CHI funded genetic testing for people suspected of HI in 38 countries.
- CHI scientific advisors come from 7 countries.
- The CHI online support group includes people from 65 countries and the HI Global Registry participants comes from every continent.

2019 Sugar Soiree

Congenital Hyperinsulinism International

My CHI Inspiration