

# Global perspectives:

HAEi MAGAZINE · ISSUE 1

Patient story

**Viktar Lebedz, Belarus**

Just a few years ago I was alone

**2016 HAEi Central and Eastern European  
Region Meeting**

The first ever HAEi Central and Eastern European Region Meeting gathered 40 attendees from 11 countries in Warsaw, Poland on 15-16 October 2016.



## HAEi Global Access Program

With the launch of the HAEi Global Access Program (HAEi GAP) – a first-of-its-kind medication access program – thousands of patients suffering from HAE will have access to medicines for the first time.

See the latest information about the program at [www.haei.org](http://www.haei.org).



Dear HAEi Friends,

Let me be the first to welcome you to Global Perspectives, a magazine that continues HAEi's commitment to bringing you timely information on the issues, activities, and events that are relevant to the global HAE community.

We occasionally ask for feedback on the usefulness of our HAEi newsletter. Overall, we have been pleased that the HAEi community gives it high marks for design and comprehensive coverage of what is going on in the world of HAE. Given the positive feedback, we decided not to dramatically change the format and content of the product, but realized that it includes far more information than what traditionally appears in a newsletter. So, we decided to rebrand the publication.

As 2016 winds down, it is important that we acknowledge being blessed that there are effective modern medicines for treating HAE with even better therapies on the horizon. HAEi friends must not, however, forget the lesson we all learned in May at the Global Conference - far too many of our HAE brothers and sisters in many parts of the world remain undiagnosed or misdiagnosed and have little or no access to modern life saving HAE medicines. In 2017, HAEi will continue its vigorous initiatives to rectify these problems this problem with a variety of initiatives that include: Implementing a global push for diagnosis and family testing; assisting our highly motivated member organizations as they seek to win and/or broaden access to modern HAE therapies; and helping patients form new HAE organizations where one does not exist.

On behalf of the HAEi Executive Committee, I wish all HAEi friends and their families a joyous holiday season and sincere best wishes for a healthy new year.

Warmest regards,

Anthony J. Castaldo  
President, HAEi

Global perspectives:

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**Cover photo**

Viktar Lebedz, Belarus. You can read his story on page 26 in this issue of Global Perspectives

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HAEi is registered as a non-profit organization in Switzerland



HAEi is a global non-profit umbrella organization dedicated to working with its network of national HAE member organizations to raise awareness of HAE

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## News from the Regional Patient Advocates

Earlier this year HAEi appointed the first five Regional Patient Advocates, dividing a large portion of the world between them. Firstly the role of the Regional Patient Advocates is to support the member organizations already in place but they are also involved in setting up more or less formal groups in countries where no organization exists yet.

The following is an extract from the most recent reports from the Regional Patient Advocates.



**Alejandra Menéndez**  
Latin America



### IN GENERAL

In common with many countries, HAE patients in countries in most of Latin America face enormous challenges where there is neither access to diagnosis nor modern treatments available. Knowledge of HAE is, at best, very low. Argentina, Brazil and Mexico are countries with the largest patient organizations and the only three countries in the whole region where reliable diagnosis and some treatments are available. We have been working to support existing organizations in countries in the region and to establish new contacts where there are no specific HAE patient organizations.

### CHILE

Two of the pharmaceutical companies, CSL Behring and Shire, have opened offices in Chile, which we hope will bring real progress with formal registration of modern HAE medications. Awareness activities have

also been carried out in collaboration with one of the hospitals in Santiago de Chile. This activity helped to raise awareness of the disease and also appropriately undertake testing for people who thought they may have HAE.

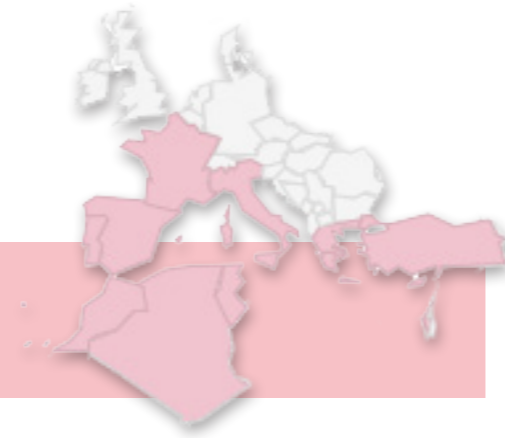
### COSTA RICA

We have established contact with a patient and also with a physician who sees a number of HAE patients in their hospital. We hope that we may be able to cooperate together to support HAE patients in Costa Rica.

Activities in the coming months will include keeping in touch with all contacts made to provide support and advice and to work with HAEi on ideas and initiatives to provide practical skills to those just starting out, not just in Latin America but in all of the regions and countries that we are working with.



**Maria Ferron**  
Mediterranean



**IN GENERAL**

We have continued to correspond with the contacts made previously and also looked to expand our network of contacts into other countries in the region. We are trying to build a picture of the support available in each country in this region and I would like to thank everyone that has been helping me with this.

**ALGERIA**

We have been put in contact with a specialist doctor who sees some HAE patients and are working on access to HAE medication and have shared information on the HAEi Global Access Program.

**MALTA**

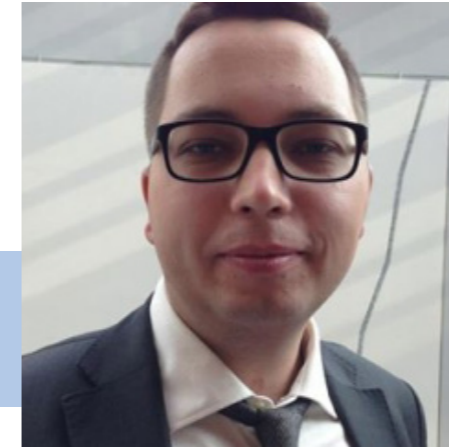
Patients do have access to a modern HAE medication, which is reimbursed. This medication is held at local

hospitals and we are investigating local regulations to understand if patients are able to have this treatment at home or not.

**MOROCCO AND ANDORRA**

We have made contact with either the Ministry of Health or a local doctor to try and understand more about HAE, the numbers of HAE patients and medications available in these countries. Currently there are no diagnosed HAE patients in Andorra but we will keep in touch in case this changes in the future.

Activities for the coming months include continuing to contact Ministers for Health to ask questions and push for treatment registration and availability in countries and continue to create links between different contacts in different countries.



**Michal Rutkowski**  
Central and Eastern Europe



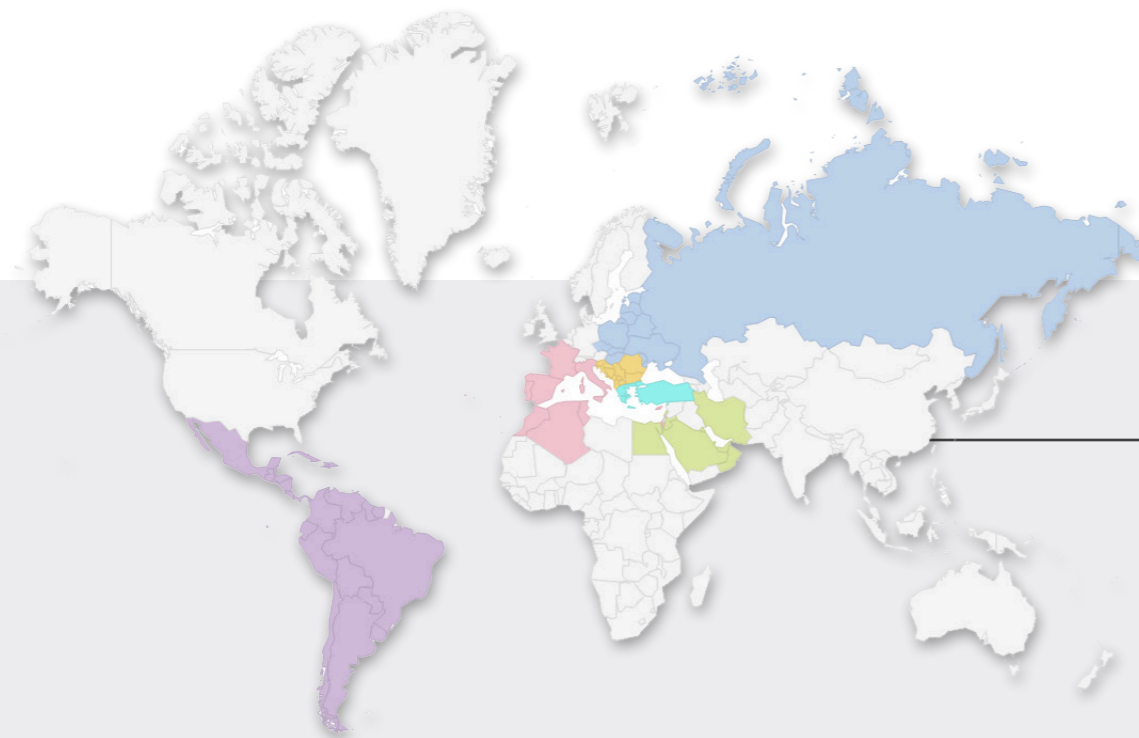
**IN GENERAL**

The highlight was the successful HAEi Central and Eastern Region Meeting in Warsaw, Poland on 15-16 October 2016. This brought together 140 patients and physicians from Poland, Belarus, the Czech Republic, Hungary, Kazakhstan, Russia, Slovakia and Ukraine, to share information and experiences about HAE. We even had patient and physician representatives from USA, Norway, and Italy. Organizing the conference involved communication and collaboration between groups across the Central and Eastern European region. The meeting was a great success and as a result, we hope to be able to run this again in 2017.

An international-regional patients meeting was held in Bialystok, Poland on 16-17 September 2016, and included 17 patients from Poland and Belarus as well as 12 physicians and four nurses. The aim of the meeting was to increase the awareness of HAE and to train patients on how to self-administer medication intravenously as well as subcutaneously.

Activities for the coming months include delivering at least two more HAE international-regional patient meetings. One of these took place 10 December 2016 in Rzeszow, Poland just 90 km from the border to Ukraine as it was dedicated to Polish and Ukrainian patients. The aim of all the international-regional meetings is the same: Successfully educate attendees about HAE and how they can administer treatment themselves.

Moving forward, there will be continued contact with countries and organizations on their activities, as we explore further opportunities for 2017.

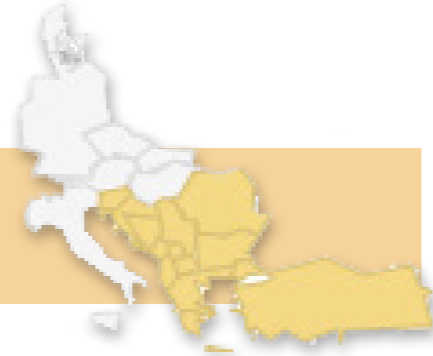


*The Regional Patient Advocates*

- **Michal Rutkowski**; Central and Eastern Europe
- **Alejandra Menéndez**; Latin America
- **Maria Ferron Smith**; Mediterranean
- **Rashad Matraji**; Gulf Region and Middle East
- **Natasa Angjeleska**; South East Europe/Balkans
- **Maria Ferron and Natasa Angjeleska**



**Natasa Angjeleska**  
South East Europe/Balkans



### IN GENERAL

We have established a closed Facebook group where we post and share information, ideas, questions and advice among ourselves regarding relevant HAE issues. Through this forum we are also able to share information about the different modern HAE medications that are available and licensed in other countries. We continue to communicate with the HAE organizations in our region and seek to organize meetings with rare disease organizations and officials within Ministries of Health.

### CROATIA

Following a meeting of HAE Croatia and an HAE specialist at the 2016 HAEi Balkan Region meeting earlier this year, a co-operation started regarding seeking home treatment for patients. We are delighted to report that for the first time, patients have received home therapy before going on their vacation. HAE Croatia is working on informative posters for the Emergency Rooms and educational sessions to be held with Emergency Room doctors. There are Guidelines for treating HAE in Croatia, and a key part of activity in the future will be to raise awareness of them.

### KOSOVO

Initial contact has been made with a physician who might be interested in collaboration around HAE activities.

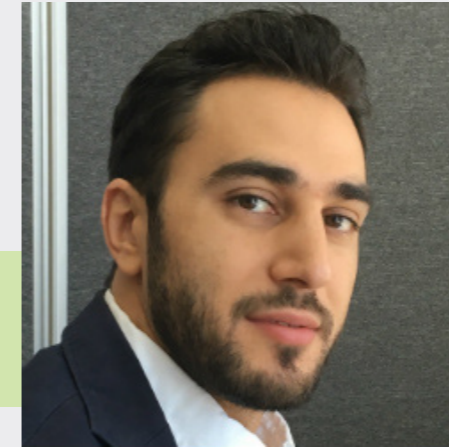
### MACEDONIA

We have had intensive communication with the Program for Rare Diseases in the Ministry of Health and hope through this to improve treatment and availability of modern HAE therapies in Macedonia as some patients are still without modern treatment. We are delighted to have agreed on a date to show the 'Special Blood' documentary in Macedonia and hope to welcome the director Natalie Metzger and the composer Bob Alaire to the screening.

### TURKEY

In October, HAE Turkey hosted a successful meeting in Izmir, for patients, caregivers and doctors. The President of the organization opened the meeting and a physician from Istanbul provided an overview of HAE and treatment options. The meeting gave patients the opportunity to ask questions as well as submit letters to HAE Turkey explaining their current problems and challenges. HAE Turkey will use the content of the letters to develop a joint report. I was also able to give a presentation, explaining how patient activities and advocacy can support and drive access to adequate therapy for HAE.

Activities for the coming months include ongoing communication with patients and doctors within the countries of the region, further meetings with heads of the patient organizations in the region with the aim of officially registering organizations in the future and organizing education courses.



**Rashad Matraji**  
Gulf Region and Middle East



### IN GENERAL

After the success of the WhatsApp group for doctors, we have also developed a WhatsApp group for patients in the region which has been very well received so far. The potential for registering and importing modern HAE medications to countries in the region has been discussed with the pharmaceutical companies and will continue to be discussed in the coming months.

### GULF COUNTRIES

We are still working to get HAE medication into the Gulf countries through the HAEi Global Access Program. We are understanding more about the process but are at the start of the process in some countries.

### LEBANON

We have been in contact with a specialist doctor who cares for a small number of HAE patients. Lebanon currently has no registered HAE specific medication, but all the patients are able to access Danazol. The specialist doctor is helping our understanding of the process of registering HAE medication in Lebanon and that this will require collaboration from doctors and pharmaceutical companies. One of the Lebanese patients was very interested in advocacy work and we are delighted that he is now part of our patient team.

Activities for the coming months include planning the 3rd regional HAE workshop, arranging country based awareness and education activities for Emergency Room doctors, continuing to contact doctors in Jordan, Egypt, and Iran, and making sure that the HAEi map includes the details of all existing HAE doctors in the region.



## Roles of the Regional Patient Advocates

- Support the member organizations already in place
- Assisting in setting up new groups in countries with no existing organization



“At the event, we experienced great presentations, discussions, and country information regarding the situation of the HAE patients. It is quite clear that there is still a lot of work that needs to be done.”

HAE Poland President, Michal Rutkowski

## HAEi Central and Eastern European Region Meeting

The first ever HAEi Central and Eastern European Region Meeting took place in Warsaw, Poland on 15-16 October 2016. For almost 48 hours the Polish capital became the “capital city of HAE”.

The meeting gathered 140 attendees from 11 countries. The event itself was dedicated to the patients representing the eight countries Belarus (3), the Czech Republic (2), Hungary (2), Kazakhstan (1), Poland (72), Russia (1), Slovakia (2), and Ukraine (3). There were also representatives from Italy, Norway, and the United States.

The conference was divided into patients' sessions and physicians' sessions, however open to anyone wishing to attend.

-We had some great lecturers with Prof. Marc Riedl from HAEA Angioedema Center in San Diego, Prof. Marco Cicardi from Luigi Sacco in Milan, and Prof. Henriette Farkas from Budapest, who is an extremely important

physician for this part of Europe. Also, I should mention the Polish physician Prof. Krystyna Obtulowicz who is nothing less as the Godmother of the HAE patients in Poland. Also, HAEi was represented by the President Anthony J. Castaldo, who once again inspired all the patients with an outstanding presentation about advocacy, says the HAE Poland President, Michal Rutkowski:

- At the event, we experienced great presentations, discussions, and country information regarding the situation of the HAE patients. It is quite clear that there is still a lot of work that needs to be done.

## Are you ready for the 2017 Camino Walk?

After the very successful HAEi/AEDAF Camino Walk on the legendary Camino de Santiago in northwestern Spain during the days leading up to the HAE Global Conference 2016 in Madrid, quite a number of people have expressed an interest in repeating the experience in May next year.

Consequently HAEi has decided to go ahead and try to organize a Camino Walk to commemorate the global awareness day for HAE hae day :-) in 2017.

The 2016 HAEi/AEDAF Camino Walk team – that is the President of HAE Spain (AEDAF) Sarah Smith, the HAEi Executive Director Henrik Balle Boysen, the HAEi Communications Manager Steen Bjerre, and the excellent organizer and guide of the 2016 Camino Walk Rafael Moreno – has gladly agreed to organize and support another walk.

– If a sufficient number of people sign up to fill one bus – or more – we will follow the well-known format: departure by bus from Madrid on Saturday 13 May, three days of walking with 15 to 20 kilometers per day on average, and return to Madrid on Wednesday 17 May. The third day of walking, when we would arrive at Santiago de Compostela and the Plaza del Obradoiro, would appropriately coincide with **hae day :-)** in 2017. Returning to Madrid on 17 May we would give the people who plan to attend the 10th C1 Deficiency Workshop in Budapest plenty of time to go there for the beginning of the event, says Sarah Smith.

However, to organize another Camino Walk, HAEi really needs to have fairly soon a reliable estimate of the number of people who would be participating.

– Therefore, we ask anyone interested to contact his or her national organization to find out how many people would be interested in going. Right now we are not asking for a formal commitment or registration, but we would like to know how many people are reliably serious about taking part in this event, says Sarah Smith.

### PLEASE CONSIDER

When considering taking part in the 2017 Camino Walk please bear in mind that:

- There will no HAEi travel grants to/from Spain
- The price could be more or less the same as this year (200 EUR per person in shared double room/295 EUR per person in single room), but it may very well be more expensive
- There probably will not be as much leeway to accommodate people who cannot or do not want to do all the walking, i.e. most likely there will be no “Plan B” except for emergencies.

## INTERESTED IN TAKING PART?

The organizers would like to receive information from anyone interested in taking part in the 2017 Camino Walk no later than 5 January 2017. Please reply to Steen Bjerre at [s.bjerre@haei.org](mailto:s.bjerre@haei.org) or Sarah Smith at [s.smith.foltz@haei.org](mailto:s.smith.foltz@haei.org).

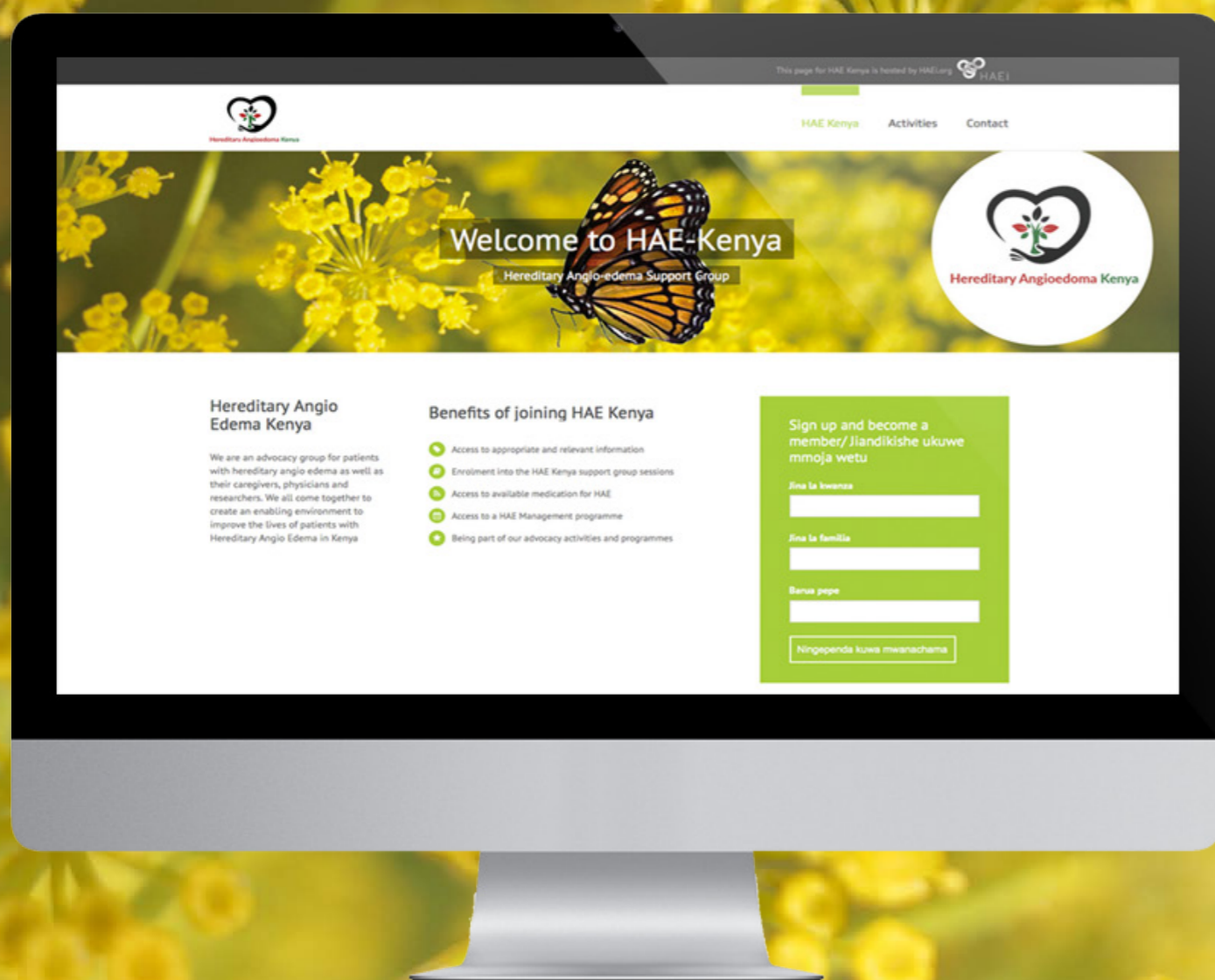
## 2017 Camino Walk

HAEi plan to organize a Camino Walk to commemorate the global HAE awareness day in 2017.



“The website hosted by HAEi is very beneficial to me. It is easy to access and it has raised more awareness about HAE. I realized this because my Youtube story has received many additional views since it was put on the website. I have also gotten new inquiries from Kenya concerning the disease. I am surely grateful to HAEi for hosting my beautiful page. It’s awesome.”

Patricia Karani, HAE Kenya



## Let HAEi host your website

A growing number of national HAE organizations have their own websites with their own individual hosting solution. However, some of them would like to change hosting or altogether change the look and content of their websites. And others would like to just have a website at all.

–In order to accommodate any such national HAE organization we have established a system under the HAEi website allowing us to host national websites as well as provide them with templates for an individualized website – naturally all in their native language, says HAEi Executive Director, Henrik Balle Boysen.

At this point national websites have been launched for Iceland, Greece, Kenya, Macedonia, Serbia, Spain, and Turkey – and HAEi is preparing a few more at the moment. Hopefully both Ireland and Poland will be launched within the next few months.

At [www.haei.org/haei\\_countries](http://www.haei.org/haei_countries) you’ll find an overview of all 54 countries registered with HAEi.

[Link to national website hosted by HAEi](#)

[Link to national website](#)

The national flags on the page link to the HAEi information on the specific country (national organization, care centers, hospitals, available medication etc.).



# News from around the Globe



## AUSTRALIA AND NEW ZEALAND

[www.haeaustralasia.org.au](http://www.haeaustralasia.org.au)

**Funding for Berinert:** HAE Australasia is pleased to share the news that Berinert will now be subsidized for use in Australia for patients with Type I and Type II HAE. Berinert will be funded through the NBA and supplied by CSL Behring. HAE Australasia would like to thank all of those involved in the process, among others Prof. Katelaris, ASCIA, patients who contributed their personal stories, other immunologists and the pharmaceutical companies involved. For details please see [www.blood.gov.au/plasma-and-recombinant-product-procurement](http://www.blood.gov.au/plasma-and-recombinant-product-procurement).

**Annual General Meeting:** HAE Australasia held the 5th Annual General Meeting 5 October 2016. All Board Members were re-elected to continue in their current position and the organization is on target with its goals for assisting patients and carers during their journey with HAE.

**Healthy Minds:** HAE Australasia has held a successful HAE Healthy Minds workshop in Brisbane in September, followed by a Meet Up over dinner, and another in Perth in November. Workshops will continue to be held throughout Australia and New Zealand throughout 2017.

**Patient Meeting:** HAE Australasia has decided to hold patient meetings bi-annually, continuing to host state and regional meet-ups throughout the year. The next patient meeting will take place 13 May 2017 in Melbourne.



## AUSTRIA

[www.hae-austria.at](http://www.hae-austria.at)

**HAE Austria**

*Hilfe zur Selbsthilfe*

Adelheid Huemer, Christian Müllner, Elisabeth Gaszó, and Martin Hinterreiter founded the Austrian HAE patient group in September 2006. Over the first five years, the number of members remained very low as those affected in Austria were accustomed to hiding themselves with the disease, and by no means to go out. Since the group was so small and the doctors hardly backing it, HAE Austria oriented itself strongly towards HAE Germany. However, this has changed significantly over the last few years. Today HAE Austria has 60 members, many of whom like to come to the meetings, are grateful for the information provided by the organization, and speak freely about their disease. The Austrian HAE experts, above all Prof. Aberer from Graz, emphasize the importance of HAE Austria as doctors would like to work with the organization

*At the 10th anniversary of HAE Austria the highlight was not a HAE sufferer, but the speech "Without a body with a soul" given by Dr. Georg Fraberger, who is born without hands or feet.*

and benefit from each other. Of course, the new drugs available in Austria for HAE patients (Berinert, Cynrize, Firazyr, and Ruconest) have also played a major role in this development. Only 10 years ago Danazolol was the only therapy

used in Austria. Today, one knows the harmful side effects of this hormone substitution and there are good, but expensive drugs, whose application is not so simple.

The 10th anniversary of HAE Austria was celebrated 3-4 September 2016. Due to a full program, moderately moderated by Dr. Nagy, the days went very fast. The interesting expert panel of Austrian HAE doctors – Prof. Aberer, Prof. Kinaciyan, Prof. Tappeiner, Dr. Öllinger and Dr. Wiednig – was followed by a lecture on the history of HAE by Prof. Bork. The program continued with the HAE Austria youngsters, who were very natural about how to deal with their disease. Later on in the day HAEi Executive Director Henrik Balle Boysen spoke with Dr. Nagy about the international HAE community. However, for many guests the highlight of the first day was not a HAE sufferer, but a man in a wheelchair, born without hands or feet. In his speech "Without a body with a soul" Dr. Georg Fraberger spoke so captivatingly that after a few minutes his impairment was no longer felt. Fierce applause accompanied his presentation.

The program also contained three workshops. A few guests from the German board as well as the representative from Switzerland took part in the psychological workshop with Dr. Nagy. The discussion was so intensive that the

timeframe was greatly exceeded, but even the youngest visitor, the 5-year-old Jonathan regularly injected with Berinert by his father, stayed in the circle of chairs and was enthusiastically involved until late in the evening.

Representatives of Healthcare at Home practiced self-injecting with willing patients, and Dr. Michaela Wiednig answered questions in a "Medical consultation hour".

CSL Behring, Shire, and Viropharma enabled the 10th anniversary of HAE Austria.



## CANADA

[www.haecanada.org](http://www.haecanada.org)

**Patient meetings:** The most recent patient meeting was held in Winnipeg 13 October 2016 – and the next one will be in the spring of 2017 in Surrey, BC. Information on dates and venues will be posted on the HAE Canada website.

**Organizational change:** Tim Howe has decided to step down from his position as the Executive Director of HAE Canada. Over the past two years, Tim Howe has demonstrated tremendous dedication and efforts to the organization and its members in accomplishing key projects and objectives aimed at improving the lives of all those affected by HAE. The HAE Canada Board of Directors is sad to see Tim Howe leave, but wish him the very best in his future endeavors. John Sloat remains as the Project Coordinator, and can assist with any inquiries.

The HAE Canada team will be examining its needs and options



## COSTA RICA

[www.facebook.com/aehcostarica](http://www.facebook.com/aehcostarica)

Good people are working on the formal formation of HAE Costa Rica - or Asociacion Angioedema Hereditario de Costa Rica. The official email address of the organization has changed to [aehcostarica@gmail.com](mailto:aehcostarica@gmail.com).



## DENMARK, NORWAY AND SWEDEN

[www.haescan.org](http://www.haescan.org)

HAE Scandinavia – covering the three Scandinavian countries – held its General Assembly 9 October 2016.

In his report the chairman Henrik Balle Boysen among many other things mentioned the establishment of a Medical Advisory Panel consisting of Prof. Anette Bygum (Denmark), Dr. Robert Brudevold (Norway), Dr. Nicholas Brodzski (Sweden), and Prof. Markus Magerl (Germany). Additionally, HAE Scandinavia announced its next Scandinavian Conference, which will take place in Stockholm, Sweden 10 – 12 November 2017.

Also, HAE Scandinavia held two patient meetings in Sweden. One in Stockholm on 22 October, where Prof. Carl-Fredrik Wahlgren gave a keynote presentation – and in Malmö on 27 October, where Dr. Nicholas Brodzski were the key presenter.

for additional support over the coming months and looks forward to continued growth and success.



## FINLAND

[www.haefinland.org](http://www.haefinland.org)

**Media:** HAE Finland has been in the media recently – one article in a national newspaper and another in a patient organization paper.

**Meetings:** Presently the organization is setting up "Meet for coffee" happenings in order to give patients a chance to drop by and talk with other in similar situations. For 2017, HAE Finland is working on a spring meeting in April.



## GERMANY

[www.angioedem.de](http://www.angioedem.de)

In October 2016 the newspaper Westfälischen Nachrichten reported about a young refugee from Syria.

The 20-year-old suffers from HAE, however, the diagnosis was only made a few weeks ago. Without knowing his condition, the young man had suffered a life-threatening laryngeal swelling on arrival in Germany. He could be revived, but is now blind due to the oxygen deficiency in the brain during a heart still. His cousin Mohammed takes care of him day and night. As HAE Germany writes on its website this fate shows us once again how important the correct diagnosis is, because only then can a fast life-threatening swelling be helped.



Four days in May 2017 Budapest will once again be the center of HAE as the 10th C1-INH Deficiency Workshop takes place in the Hungarian capital. This conference focuses on bradykinin-mediated angioedemas, and particularly on the types resulting from C1-inhibitor deficiency. The topics of the event cover a wide range of subjects. These are, among others, the latest achievements in the diagnostics of the disease. They also include the exploration of its hereditary, pathogenetic, and clinical background; as well as the management and follow up of the patients. See the preliminary program at [www.2017.haenetworkshop.hu/program](http://www.2017.haenetworkshop.hu/program).



*From Beverley Yamamoto, the President of HAE Japan:*

Following a media seminar held in May to coincide with our registration of hae day :-), with the Japan Anniversaries Association, we have had widespread media coverage of HAE, both digital and print based. We did a couple of follow up interviews for two of the leading daily newspapers, Asahi Shinbun and Yomiuri Shinbun, and got further coverage. The Asahi newspaper article appeared in a regular column Hito (People) and was placed prominently on page two next to a report on US presidential politics. The media coverage has led to more inquiries from patients with HAE type symptoms. We need to systematically collect data to see the impact of this in terms of new diagnoses and better uptake on treatment.

22-25 September 2016 I attended the 5th China Rare Disease Summit held in the beautiful lakeside city of Hangzhou that recently hosted the G20 Summit. The summit was organized by the Chinese Organization of Rare Disorders (CORD). I spoke about the important role of patient advocacy for improving rare disease treatment environments and focused specifically on the activities of HAE Japan. The summit was largely Chinese language based, but the three international speakers presented in English with interpretation. We also had personal translators so we could follow all the sessions. The organization of the summit was impressive and the warmth generated at the event just wonderful. I learned a lot and about the rare disease patient advocacy space in China. Next year CORD will be co-hosting the International Conference on Rare Diseases and Orphan Drugs (ICORD) in Beijing.

*At the 5th China Rare Disease Summit in the city of Hangzhou Beverly Yamamoto, the President of HAE Japan, gave a presentation about the important role of patient advocacy for improving rare disease treatment environments and focused specifically on the activities of HAE Japan.*



The largest meeting of HAE patients to date was held 7 August 2016. Puerto Rico is a small island by population, but the incidence of HAE is the same as everywhere else in the world, so gathering more than 100 patients and family members together was a great success. HAEA Patient Advocate and Puerto Rico resident Michelle Cuevas introduced the meeting speakers: HAEA President Anthony J. Castaldo, physicians Rafael Zaragoza and Anardi Agosto, and HAEA Clinical Nurse Manager Troyce Venturella. The day closed with a professionally produced slideshow from the recent HAE in MOTION 5k held in San Juan. That event brought out more than 300 runners and raised awareness across the island. HAEA Puerto Rico is growing and making great strides for lifelong health for all of those on the island. Mas Salud! Mejor Vida!



*HAEA Puerto Rico is growing and making great strides for lifelong health for all of those on the island and more than 100 HAE patients and family members participated in the meeting held on 7 August 2016.*

*Mas Salud! Mejor Vida!*



*From the HAE Spain (AEDAF) President Sarah Smith Foltz:*

After a busy first half of the year, AEDAF has resumed its regional patient workshops with a meeting on 7 October 2016 in Tarragona (Catalonia) and another in Jerez de la Frontera (Andalusia) on 25 October 2015. These were the 9th and 10th workshops organized for HAE patients, families and medical professionals; four workshops were held in 2014 in Antequera (Malaga), Valladolid, Alicante and Bilbao, and

another four in 2015 in Talavera de la Reina (Toledo), Oviedo (Asturias), Santa Cruz de Tenerife and Pamplona.

In Tarragona, Dr. Anna Sala of Vall d'Hebron University Hospital of Barcelona and Dr. Pere Gaig of Joan XXIII University Hospital of Tarragona joined the vice-president of AEDAF, Dr. Concepcion Lopez Serrano, and myself to present the activities of AEDAF and HAEi, an update of HAE and the current treatment options, and the situation of HAE in Tarragona and all of Catalonia. Some 30 people were in attendance, including patients with their families or friends and medical professionals.

Nearly 40 people, most of them patients and family members, joined us for the 10th Workshop in Jerez de la Frontera (Andalusia), where the regional and local guest speakers were Dr. Teresa Gonzalez-Quevedo of Virgen del Rocio University Hospital in Seville and coordinator of the Reference Unit for Angioedema in Andalusia, and Dr. Rosario Fatou of the Public Hospital of Jerez de la Frontera.

AEDAF will be supporting the recruiting of HAE patients in Spain for the APeX-1 clinical trial of BCX-7353 for the oral treatment of HAE. For more information on the Spanish study, please see the AEDAF website [www.angioedema-aedaf.org](http://www.angioedema-aedaf.org).



## SWITZERLAND

[www.hae-vereinigung.ch](http://www.hae-vereinigung.ch)

15 years ago Paula Hunkeler established HAE Switzerland and she has been heading the organization ever since. During this period it has developed into a large network of HAE patients, experts, pharmaceutical companies, and international HAE friends – and it has helped to significantly improve the lives of patients.

However, Paula Hunkeler has decided to resign as president and leave the HAE board. On 4 November 2016 the Annual General Meeting elected Helene Saam as new President with Nicole Hodler as Vice President and Fabienne Resenterra as Treasurer.

Recently HAE Switzerland has introduced a new Facebook group – please see <https://www.facebook.com/groups/321962738184485>



## UNITED KINGDOM

[www.haeuk.org](http://www.haeuk.org)

*The HAE UK CEO Laura Szutowicz writes:*

Rachel Annals and I went north at the end of September to Perth where we held our first Patient Day. The venue was the Salutation Hotel, the oldest Hotel in Scotland and with many historic associations including to the 'Bonnie Prince' Charles James Stewart himself. All in all a rip-roaring success. We had 40 attendees, mainly patients and families, but also some nurses attended. The venue was very good, although parking was something of an issue and also it took some time to get the air conditioning turned

off and the heating turned on but the food and service was excellent, and the facilities in the meeting room were good too.

After welcoming everyone and giving a brief resume of HAE UK and our work, our first speaker Dr. Herriot started off with a superb presentation on HAE, the cellular biology involved, diagnosis, treatment and the 'forward view'. His was one of the best presentations I have heard with lots of information, comprehensive explanations and plenty of humor. We are lining him up as a speaker to have in future at the national day.

*In the oldest hotel in Scotland, the Salutation Hotel, the first Patient Day of HAEUK was held in the end of September.*

*The day was filled with great presentations given by experts in the field of HAE, real life stories told by patients and relatives to HAE patients and health care professionals.*

Furkhanda Haxton gave a very good patient story, then we had Pippa Adams who went through the study she did for her dissertation on 'The Lived Experience of Women with HAE', which again was very well received. Pippa Adams will be joining us in Bristol. She was followed by Nikki Pitt, whose husband and daughter have HAE, who gave a wry, amusing and lively presentation on the family experience of HAE.

Lunch followed, during which we showed the HAE film 'Special

Blood'. This was the UK Premiere, which was exciting. It too will be shown in Bristol. Our final speaker was Immunology Specialist Nurse Mary Brownlie on the role of the specialist nurse in treatment and training for Home Therapy and travelling. Emma Parker gave a good patient story on the difference home therapy had made to her life. The day was wrapped up with a Q&A session.

We gained 10 new members from the day, and great enthusiasm for another one. Many people remarked how they had not met another HAE patient other than family so we hope we have given them some new connections.

Preparations for Bristol and the Patient Day are well under way and we think we have an exciting program for the day. We are very honored that the HAEi Executive Director Henrik Balle Boysen will be one of our presenters. We are planning a little social evening on the Friday evening before with a bit of a 'meet and greet' which we hope will be popular and make new attendees feel more at home.

Alex, the HAE UK Youth Ambassador, has been positively brimming with ideas and is greatly looking forward



## USA

[www.haea.org](http://www.haea.org)

to running some of them with her group at the Patient Day. We have set up a dedicated Young HAE UK Facebook page so they have their own forum and we are working on various new literature and so on.

We have some more news from our wonderful fundraisers: Declan McComb took part in a sponsored bike ride to raise money for HAE UK. This is the second sponsored bike ride Declan has taken part in in aid of HAE UK and he has raised an amazing amount. Rick and Pam Talbot (yes, Rick who did the Boxing Day swim) nominated HAE UK as the Gnosall Lions charity and raised funds throughout Pam's Presidential year. Marion Lloyd, along with her colleagues, raised money for HAE UK by organizing various small fundraising events at their place of work. Roberta Kendall kindly donated the profits from her tuck shop sales to HAE UK. Furkhanda Haxton abstained from chocolate and all her favorite treats for a whole month and raised money for HAE UK.

Ann Blake, one of our members, and her husband Kevin have lots of connections in the music business and through their contacts have set up a concert with proceeds to HAE UK. The date is 8 April 2017 in the Winchester Guild Hall and the group is Oye Santana. They are 'the best tribute band I have seen' says one quote and having gone onto their website and YouTube I have to agree. This is such a generous gesture from Oye Santana and from Ann and Kevin to have organized it in the first place so I hope there will be plenty of support. Rachel and I are already booking our tickets.

These medical experts review both histamine and bradykinin-mediated angioedemas. They also review appropriate management strategies for both angioedema pathways.

The CME module on HAE and the Emergency Department is another important initiative of the US HAEA that will make inroads into education for emergency physicians. It may be viewed by doctors, nurses, pharmacists and any others interested in learning more about HAE.

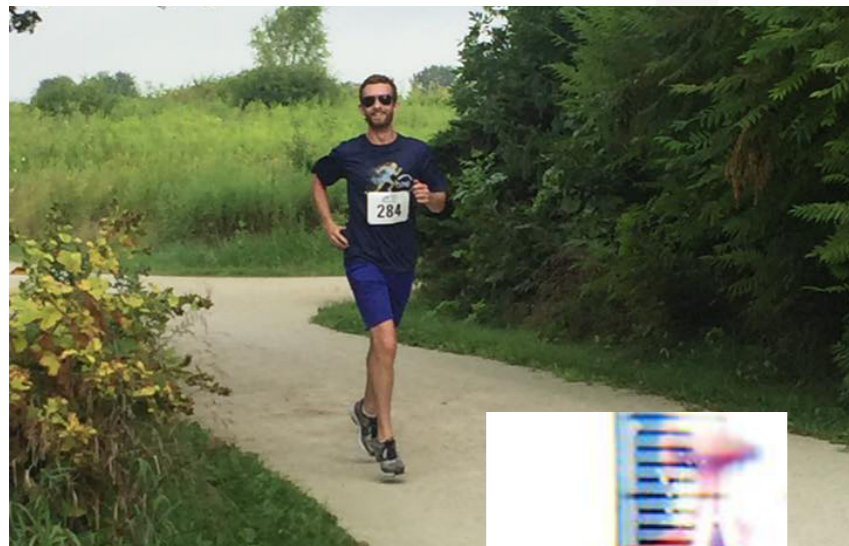
The US HAEA also attended the ACEP national conference in Las Vegas, NV in October to educate the thousands of ER physicians on HAE.

**New CME program on HAE in the Emergency Department:** The US HAEA is pleased to partner with the American College of Emergency Physicians (ACEP) to provide a brand new Continuing Medical Education (CME) module specific to treatment of HAE in the Emergency Department. The ACEP is the national association with a reach to all emergency doctors in the US.

Dr. Marc Riedl and Dr. Jesse Pines discuss angioedema in the ER in this new CME that is available on [www.haeedu.com](http://www.haeedu.com).

*The US HAEA at the ACEP national conference in Las Vegas, NV in October educating thousands of ER physicians on HAE.*





**HAE IN Motion 5Ks:** US HAEA has created 'HAE in MOTION', a new national fundraising platform to benefit the HAE community. This program supports patients in hosting 5k walk/run events to raise awareness in their own communities throughout the nation. At this point US HAEA has successfully hosted around 10 events this year with even more events already booked for 2017.

Some of the most recent successful events took place in Omaha, Philadelphia, Chicago, Cincinnati, and Rhode Island. These events have been nothing short of inspiring as hundreds of patients participate and set-up teams with family, friends, co-workers and other supporters to drive awareness and support HAE resources. Read much more at <http://5k.haea.org>.

**Special Blood:** President Anthony J. Castaldo of the US HAEA and other HAEA staff members attended the world premiere of the documentary "Special Blood". Here is a synopsis:

"Special Blood provides an absorbing, unfettered view into the world of families whose loved ones are affected by a rare, debilitating, and potentially fatal disease known as Hereditary Angioedema. The film probes the depth of human emotions as families cope with loved ones experiencing wearying chronic symptoms and mothers transform the grief of losing their precious children into purposeful advocacy. Special Blood provides a front row seat for inspirational stories of survival in the midst of despair and the deep human predisposition for hope and positive action".

This riveting film was directed and produced by HAE patient Natalie Metzger. She is a gifted filmmaker and the US HAEA has proudly worked with her to make sure the film is widely available. Patients have

*Daniel participating in one of the 10 'HAE in MOTION' events held by US HAEA this year.*

arranged "Special Blood" screenings in a dozen locations across the USA. While offering a magnificent tribute to HAE patients, the film also serves to raise awareness of the need for better therapies and, ultimately, a cure.

**From the US HAEA Angioedema Center:** At the center continued progress is being made on clinical studies for the next generation for care of HAE – ongoing is the trial of the fully human anti-plasma kallikrein antibody. Another study looks into the role of stress and HAE; hopefully the researchers will be able to finish enrollment in the next month or so and are looking forward to sharing the data. The next step will be to determine how "stress translates into swelling".

**21st Century Cures Act:** The US Senate recently approved the 21st Century Cures Act which, among other things will increase funding for disease research and make changes to the regulatory system for drugs and medical devices. HAEA is generally pleased with this legislation and believes it will have a positive impact on patients. HAEA continues to closely monitor legislative and regulatory matters that affect the patient community. As part of this effort, the organization maintains an active presence in patient coalitions that share the HAEA dedication to improving the quality and accessibility of healthcare programs.



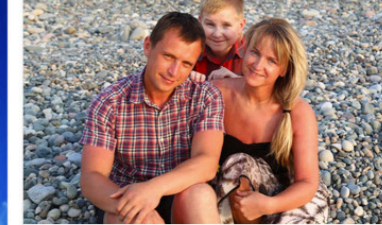
**Bosmat Friedenreich-Wertzberger, Israel (1974)**

Bosmat Friedenreich-Wertzberger is a career woman, presently in a very intensive senior managerial position with 12-hour workdays and 24-7 availability. It is challenging but she loves the action – and since she started to self-inject her life has changed dramatically.



**Benedikte Hellevik, Norway (1974-2016)**

Benedikte Hellevik has only months left to live. So how on earth can she talk about the joy of living? Well, for her it's more important than ever. Life isn't over yet, and she is going to enjoy every



**Viktar Lebedz, Belarus (1979)**

Viktar Lebedz has been suffering from and trying to understand HAE for over 25 years of his life. During this period he has had many sudden swellings, unnecessary treatments and even surgery.



**Erling Hess-Nielsen, Denmark (1940)**

I have really been lucky all the way through, you know? That is how Erling Hess-Nielsen, born 1940,

## Patient stories

At [www.haei.org](http://www.haei.org) HAE patients from Australia, Belarus, Brazil, Denmark, Hungary, Norway, Russia, the United Arab Emirates, and the United Kingdom tell their touching and motivating stories.

Here you can read about the HAE lives of a diverse group of patients that include a university lecturer, a truck driver, a retired nurse, an operations manager, and a cattle farmer.

**Ole V. Kristensen, Denmark (1964)**

– if not for his own sake then for that of his family. He doesn't think like that any longer. Today the right medication ensures him a life that is in every aspect worth living.



**Rada Buhtiyarova, Russia (1991)**

Although she was diagnosed with a very rare condition at the age of three, it wasn't until recently Rada Buhtiyarova found out that she is



**Cindy Hughes, Australia (1980)**

Living on a farm six hours by car away from any major hospital is maybe not the sort of thing you would do if you were a HAE patient. Cindy Hughes is – and she does. "A country girl born and bred, I wouldn't survive in the city", she says.

**Rashad Matraji, United Arab Emirates (1984)**

Rashad Matraji has been a scout since his teens and he has tried things like hiking, camping, cycling, exploring caves, kickboxing, and kungfu. Never has he asked for special treatment - nor has he acted as if he was in any way disabled or having a problem.



One of the stories is from Viktor Lebedz, Belarus. He thinks that children's disorders give parents additional impulses to go ahead and find a way to protect the new generation from what the older ones have had to go through. This is Viktor's story.



### Viktor's story in brief

Born 1979; until 2014 living in Grodno, Belarus – relocated to Fort Wayne, Indiana, USA for at least a couple of years. Married to Luda; father of Nikita (2002).

Educated as mathematician and software engineer; since 2008 Director of Graphical and Interface Design with the software company Azati Corporation.

HAE symptoms started in infancy; diagnosed at 25.

Other HAE patients in his family: Grandmother, father, sister, son and niece.

### Patient story: Viktor Lebedz

## Just a few years ago I was alone

I have been suffering from and trying to understand HAE for over 25 years of my life. During this period I have had many sudden swellings, unnecessary treatments and even surgery. The first attack I remember was a swelling on my feet. I was a four-year-old kid and it was painful for me to walk so I crawled from one room to another. As a child I liked active games, but almost every accidental hit to my forehead caused an acute facial edema with my eyes closing and lips inflating to unbelievable size. Often my hands were swollen, too.

At that point in your life you weren't diagnosed – in fact no one in your family were. How did you and your family react to attacks from a disease you did not know what was?

Naturally the repeating cases of an unknown allergy – combined with the absence of effective medicine – made both my family and me more cautious. However, the pleasure of playing together with friends was much more valuable, so the attacks would continue. During my school years I frequently suffered from stomach pain, usually with vomiting and weakness.

These were the symptoms of abdominal edema but at that time it was diagnosed as gastritis and in one case unfortunately also as appendicitis. My father Josef had similar symptoms and laryngeal attacks, too. The hereditary form of our illness was evident to everybody, but no one knew what was wrong with us and no one could stop the swellings.

Your laryngeal edemas started in puberty.

Yes, during those years I had one to two per year. They limited me when it came to traveling – I couldn't very well be far away from a medical center. Well-known to the physicians at the intensive therapy, I was usually intubated whenever I went to the hospital with a throat attack.

How did the attacks affect your ability to study?

Due to the episodes of swellings and stomach pain, I missed quite a number of my classes at school and later at the university as well. Fortunately I was able to catch up with the lessons I missed, so the disease hasn't affected my performance seriously. In addition, I was lucky enough not to miss my exams. The attacks usually appeared right after them.

In 2002 my son Nikita was born. Knowing that my attacks had appeared already in infancy and not seeing the same symptoms on Nikita, we – that is my wife Luda, the whole family and I – hoped that the child hadn't inherited his father's rare and dangerous condition. Well, that lasted until 2009.

But before then something you characterize as “a happy coincidence” happened.

Yes, at the eve of the New Year 2005 – at the age of 25 – I suffered a particularly bad laryngeal attack. Afterwards I couldn't see for a few days and I hardly spoke and walked for a couple of months. An involuntary shaking in my hands still reminds me of that episode. It was during this hospitalization that I met Dr. Valentina Zhemoitiak – a pediatrician and medical scientist, who got to know about me by what was indeed a happy coincidence. She identified my symptoms, diagnosed HAE and ultimately changed my life by prescribing steroids, the only treatment option at the time – and that helped me.

And what about other members of your family?

My father was diagnosed right after me – and a few years later my younger sister Ofelia. She had neither visible swellings, nor periodic abdominal pain till the age of 26 when her first attacks appeared. Her disorder showed it could be hidden for years.

And Nikita?

Well, one morning – he was six years at the time – Nikita woke up with one of his hands swollen. I remember he asked me why his arm didn't move, why it had occurred, why it happened to him, if it would happen in the future, how to stop it and so on. It was not easy to answer these questions and properly explain what was going on, trying not to frighten the child. A week later Nikita's HAE diagnosis was confirmed.

It is only fair to say that Nikita's diagnosis was a turning point for you, isn't it?

Indeed. It is true that children's disorders give parents additional impulses to go ahead and find a way to protect the new generation from what the older ones have had to go through. At that time I began researching HAE on the Internet.

Soon I learned of others who had HAE and realized I was not all alone with this condition. I came across the HAEi website and it provided me with so much information. Shortly after this, I created [www.hereditary-angioedema.org](http://www.hereditary-angioedema.org), a HAE-related website in Russian that gives Russian-speaking people of the former USSR a chance to learn about the symptoms and treatment, share their personal stories and receive support. Sharing words of encouragement is especially important for patients who live in places where treatment for acute attacks is not available.

In 2010 we established the organization “Save Immunity” in Belarus. It unites patients with Primary Immunodeficiency as well as with HAE. Together we set up a connection between patients and their relatives, medical centers, pharmaceutical companies and the government.

The year after I met Henrik Boysen, the Executive Director of HAEi. It is only fair to say that it was a meeting that transformed my life as I became deeply involved in the international HAE activities. From 2012 to 2014 I was member of the HAEi Executive Committee and I met lots of great people who are raising awareness of HAE throughout the world.



*Viktar's son Nikita was diagnosed with HAE at the age of six and that became a turning point for Viktar.*

*With inspirations from HAEi.org he created [www.hereditary-angioedema.org](http://www.hereditary-angioedema.org), a HAE-related website in Russian that gives Russian-speaking people of the former USSR a chance to learn about the symptoms and treatment, share their personal stories and receive support. This was just the start – since then Viktar has been greatly involved in HAE activities both locally and internationally.*





So Belarus joined the international HAE community.

We did – and eagerly so. Soon we installed special relationships with the HAE organization in our neighboring country Poland and its President, Michal Rutkowski. For me Poland is a very good example for many others national patients' communities of how to improve things.

My HAE friends from Belarus, Poland, the Czech Republic, Norway, Denmark, France, the United States, Hungary, the United Arab Emirates, Ukraine, Russia and many more now are my HAE family. Understanding of this is priceless when you realize that just a few years ago I was all-alone with an unknown hereditary disorder.

How did the United States get into the picture for you – and why?

It so happened, that in 2014 my family and I got a chance to move to the US. The availability of effective HAE medication was our major reason for moving, really. Now, we live in Fort Wayne, Indiana and my son, who just recently entered his adolescence period with all possible dangerous HAE consequences, finally has access to intravenously delivered plasma derived C1-inhibitor. That really is invaluable.

The move to the United States gave me the possibility to join the US HAEA community that has provided great activities and an incredible patients' support. With the assistance of HAEA President Anthony Castaldo, Patient Services Team Member Sherry Porter, and Nurse Reimbursement Manager Nikia Davis we found an HAE physician as well as the appropriate health insurance plan and the people from US HAEA have made our entry to the community very smooth.

But you are still involved in HAE Belarus?

For sure I am. Thanks to modern means of communication it is easy to be in touch despite geographic location and time difference. Together with other patients, physicians and volunteers from Belarus we have developed a set of activities to improve HAE diagnosis – that really is the major problem – and support HAE patients.

One of our actions in HAE Belarus is a story about an exclusive HAE patient – the beautiful handmade doll Nadia who suffers from HAE and is looking forward to effective medication available in Belarus. If you want to meet Nadia you should go to [www.haedoll.org](http://www.haedoll.org).

As one of the most recent efforts HAE Belarus arranged the first HAE scientific medical workshop in Minsk, Belarus. It took place in April 2015 and was among many others joined by the renowned American HAE scientist, Prof. Bruce Zuraw who gave a wonderful lecture to Belarusian allergologists and immunologists about HAE, its symptoms, modern diagnosis and treatment. I want to believe that all these and future steps and efforts will gradually improve the situation with HAE in my native country.

And how is the HAE situation in your family in Belarus now?

Well, at the moment the youngest generation with HAE in my family is my lovely one-year-old niece Julia. Recently her blood was tested in the lab and it has been confirmed that she has the same gene mutation as mine. So far she has no symptoms, but we have to be prepared for the illness that could wake up.

I really wish that there were some sort of “miracle” that could stop HAE attacks. It would provide HAE patients and their families with a sense of protection. Until we get there I will do my best to raise awareness of HAE.

*Viktar with his wife and son attending a HAE event*



### HAE in Belarus

- Member Organization – established 2010: [www.hereditary-angioedema.org](http://www.hereditary-angioedema.org)
- 35 diagnosed patients
- 2 care centers: Minsk and Gomel
- 7 hospitals: Minsk (2), Brest, Vitebsk, Gomel, Grodno, and Mogilev
- Available medication: Ruconest; androgens (Danazol) are prescribed off label.

## Specially designed HAEi tourniquet

At the HAE Global Conference in Madrid, Spain in May 2016, HAEi launched a competition among the many youngsters who had their own program during the conference.

The youngsters were asked to design HAEi's very own tourniquet. They worked intensively on the job for several hours and subsequently the many good competition entries were presented to the other conference participants. There was praise to the diversity of solutions that the youngsters introduced and it was quite difficult to determine a winner of the competition. However, in the end it was Mya Willers from Wagga Wagga, New South Wales, Australia, who captured the first prize.



Very recently HAEi has set the tourniquet in production – and the very fine result of Mya Willers' work can be seen on this page.



## A very successful conference

The 2016 HAE Global Conference in Madrid, Spain was a very successful gathering of 528 patients, caregivers, physician and researchers as well as pharmaceutical company representatives from 52 countries throughout the globe.



HAEi has collected some of the highlights of the 2016 conference at the organization's website. Here among many other things you will find an overview of the delegates country by country, the conference program in highlights, and the results of a survey conducted amongst the participants. Also, the website includes a couple of short videos with some of the delegates, the official trailer for the 'Special Blood' film, and a lot of pictures from the conference days in Madrid.

Also, the 2016 HAE Global Conference website is where you will find short videos with HAE patients from Australia, Belarus, Brazil, Colombia, Denmark, Ecuador, Kenya, Serbia, Turkey, United Arab Emirates, United Kingdom, and USA, letting you in on their lives with an extremely rare disease. Some videos are in English while others are in languages such as Arabic, Portuguese, Spanish, Swahili, and Turkish.

Here are just three extracts from the survey on the 2016 HAE Global Conference:

Please feel free to browse the official 2016 HAE Global Conference website at <http://haei.org/gc2016>.

- 97 percent of the respondents rated the conference as either 'extremely useful' or 'useful'
- 60 percent of the respondents rated the majority of the presentations 'very good' or 'excellent'
- 97 percent of the respondents would attend the HAE Global Conference in the future.

## Ask the Doctors

In 2015 the US HAE Association implemented a process for answering patients' questions about HAE. Physician/Scientists at the US HAEA Angioedema Center at the University of California San Diego field questions and the answers are posted on Facebook pages for Angioedema Center Facebook Page and the US HAEA. Below, Dr. Sandra Christiansen, Dr. Marc Riedl, and Dr. Bruce Zuraw answer a recently asked question.

*“Since C1INH is produced in the liver would a liver transplant be a cure for an HAE patient?”*

**Dr. Christiansen:** The risk benefit ratio of liver transplant is critical to consider with the safe and effective treatment options that we have today. An example of the “dark side” occurred in 2010 with the publication of a case report of a liver transplant inducing angioedema. The swelling appeared to be kinin mediated as the patient responded to the kallikrein inhibitor, kalbitor. Serial C1 esterase inhibitor levels were suppressed during severe attacks of angioedema with elevated C1q – thus consistent with acquired C1 inhibitor deficiency. In this circumstance the liver transplant actually caused recurrent angioedema with the same clinical profile as HAE – this would certainly give one to pause before proposing this as a therapy for the disease.

**Dr. Riedl:** I'm also not aware of any reports that liver transplantation has been performed or shown curative in individuals with C1INH deficiency. In theory, replacing the liver would result in improved C1INH protein production. Research over the years, including some by Dr. Zuraw's lab, has shown that C1INH is produced by a number of different cell lines in the body, but that liver cells are particularly capable of making C1INH. This is true for a number of important plasma proteins, which is part of the reason that liver failure is a devastating and fatal medical problem. Of course in HAE, the liver generally works normally except for the very specific C1INH gene mutation that prevents normal C1INH production by the cells. While not used to date for HAE, liver transplantation has been used to treat other specific protein-deficiency conditions such as alpha-1 antitrypsin (AAT) deficiency. The difference between AAT deficiency and C1INH deficiency is that AAT deficiency often leads to progressive and fatal lung and/or liver damage over time whereas C1INH deficiency doesn't appear to cause any chronic or long-term organ damage. That doesn't make HAE any less dangerous or disabling, but it's a clear difference in the natural course and complications of the conditions. So for other protein-deficiency conditions, liver transplantation has typically been used as an option when the progressive organ damage has reached the point of generalized and ultimately fatal liver

failure. Liver transplants still have substantial short and long-term risks including death during the surgical period. Lifelong immunosuppressive medications are required in most cases so medication side effects and infection are major issues. I think it's unlikely we'll ever see liver transplantation as an important treatment option in HAE due to these risks. More likely, targeted repair of the specific gene mutation with gene therapy or gene editing will be the major curative strategy. These gene-specific treatments may allow us to increase the C1INH protein production of cells without the risks of replacing an entire organ that is otherwise working just fine.

**Dr. Zuraw:** My guess is that a liver transplant could indeed cure HAE-C1INH. As we all recognize, however, the risks and complications of a liver transplant far outweigh the potential benefits, and therefore I would speculate that nobody will ever perform a liver transplant for the purpose of treating HAE. It would be far more feasible to consider gene therapy to supplement C1INH production by liver cells, and there are several groups looking into this approach. We began studying C1INH synthesis in the mid-1980s. We showed that human liver cells were able to make C1INH, and that the production of C1INH could be increased by stimulating the cells with a number of cytokines including interferon gamma and interleukin-6. At the time, we hoped to show how androgens regulated C1INH synthesis, but we could never find any direct effect of androgens on C1INH synthesis. We also studied whether other cells could make C1INH. Among those that do, are mononuclear phagocytes (monocytes and macrophages) as well as fibroblasts, each of which come from bone marrow stem cells. This is very interesting with respect to a patient with Evans syndrome, an autoimmune disorder in which blood cells are destroyed. This patient had a severe case that required bone marrow transplantation. He also suffered from HAE-C1INH. The remarkable finding was that his HAE-C1INH was cured by the bone marrow transplantation. While we don't fully understand the basis of this response, it is tempting to speculate that the bone marrow transplant provided normal stem cells that were able to produce sufficient C1INH to result in a clinical cure. Bone marrow transplantation can be far safer than liver transplantation. Furthermore, the mutation causing HAE-C1INH could potentially be corrected in a patient's own bone marrow cells and then given back to the patient. This is a process called gene editing, which is advancing at a rapid pace. It's also important to know that non-curative therapies for HAE are also likely to get much more effective. Ultimately, it may be a tough choice whether to control HAE with medicines or go for a cure.

## Global Advocacy Work

### Recent events

- 2-4 September:** HAEi participated in the 10th anniversary celebration for HAE Austria in Vienna, Austria.
- 12-18 September:** HAEi took part in the annual meeting of Australasian Society of Clinical Immunology and Allergy (ASCI) at Goldcoast, Australia. ASCIA offered a great opportunity to meet with physicians from all over the Asian continent.
- 18-21 September:** HAEi participated in and chaired a session on pharmacoeconomics and the cost of HAE medicines at the Third HAWK Consensus Conference in Gargnano, Italy.
- 20-22 September:** HAEi took part in the Bradykinin Symposium in Berlin, Germany.
- 28-30 September:** HAEi participated in a conference that included allergist/dermatologist specialists from Southeast Asia. The meeting, taking place in Bangkok, Thailand, prominently featured HAE and included a session with patients.
- 14-16 October:** HAEi took part in the 2016 HAEi CEEC Conference in Warsaw, Poland.
- 4-6 November:** HAEi had its 2016 Executive Committee Workshop in San Diego, USA – including a visit to the US HAEA Angioedema Center at UCSD.
- 17-19 November:** HAEi participated in the 2nd Rare Disease Asia Conference 2016 in Kuala Lumpur, Malaysia – primarily to find new contacts in yet unexplored Asian countries.
- 18-20 November:** HAEi participated in the HAE UK Patient Day in Bristol, United Kingdom.
- 8 - 9 December:** HAEi took part in the HAEi Gulf Region Workshop in Dubai, United Arab Emirates.

### Upcoming events

- 6-8 January:** HAEi will have its second HAEi Regional Patient Advocate workshop in Vienna, Austria.
- 11-13 January:** HAEi will participate in the Plasma User Group forum in Lisbon, Portugal.
- January:** First preparational site visit at the venue for the 2018 HAE Global Conference.





## Clinical Trials

According to the International Clinical Trials Registry Platform under World Health Organization (WHO) and [clinicaltrials.gov](http://clinicaltrials.gov) under the U.S. National Institutes of Health the following trials should be recruiting at this moment:

**A Phase 3, Multicenter, Randomized, Single-Blind, Dose-Ranging, Crossover Study to Evaluate the Safety and Efficacy of Intravenous Administration of Cinryze® (C1 Esterase Inhibitor [Human]) for the Prevention of Angioedema Attacks in Children 6 to 11 Years of Age With HAE**

– recruiting in Argentina, Germany, Italy, Mexico, Romania, United Kingdom, and United States.

<http://www.drks.de/DRKS00005838>

– recruiting in Germany, Mexico, Romania, United Kingdom, and United States.

[https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract\\_number:2013-002453-29](https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract_number:2013-002453-29)

**A placebo controlled trial of three doses of BCX7353 (an oral kallikrein inhibitor) to evaluate the safety and efficacy in the prevention of attacks in patients with HAE**

– recruiting in Canada, Germany, Hungary, and United Kingdom.

[https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract\\_number:2015-003923-74](https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract_number:2015-003923-74)

**A randomized, placebo-controlled, double-blind Phase III study of the efficacy and safety of recombinant human C1 inhibitor for the treatment of acute attacks in patients with HAE**

– recruiting in Italy.

[https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract\\_number:2004-004282-15](https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract_number:2004-004282-15)

**A study to evaluate the long-term clinical safety and efficacy of subcutaneously administered C1-esterase inhibitor in the prevention of HAE**

– recruiting in Australia, Canada, Czech Republic, Germany, Hungary, Israel, Italy, Spain, United Kingdom, and United States.

[https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract\\_number:2014-001054-42](https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract_number:2014-001054-42)

**BCX7353 (an oral kallikrein inhibitor) for the prevention of HAE attacks**

– recruiting in Australia, Austria, Canada, Germany, Hungary, Macedonia, Spain, Switzerland, and United Kingdom.

[https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract\\_number:2016-001272-29](https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract_number:2016-001272-29)

**C1 Inhibitor Registry in the Treatment of HAE Attacks**

– recruiting in Bulgaria, Czech Republic, France, Germany, Hungary, Italy, Netherlands, Norway, Poland, Slovakia, and Sweden.

<https://clinicaltrials.gov/show/NCT01397864>

**Determination of Specific Biomarkers of Acute Attack of Angioedema Within Pediatric Population**

– recruiting in France.

<https://clinicaltrials.gov/ct2/show/NCT02854397>

**Firazyr Patient Registry Protocol (Icatibant Outcome Survey - IOS)**

– recruiting in Austria, Brazil, Denmark, France, Germany, Greece, Israel, Italy, Spain, Sweden, and United Kingdom.

<https://clinicaltrials.gov/ct2/show/record/NCT01034969>

**HELP Study: A Multicenter, Randomized, Double-Blind, Placebo-Controlled Efficacy and Safety Study to Evaluate DX-2930 (SHP643 anti-plasma kallikrein mAb) For Long-Term Prophylaxis Against Acute Attacks of HAE**

– recruiting in Canada, Germany, Italy, Jordan, Puerto Rico, United Kingdom, and United States.

<http://www.drks.de/DRKS00010438>

**Long-term Safety and Efficacy Study of DX-2930 (SHP643 anti-plasma kallikrein mAb) to Prevent Acute Angioedema Attacks in Patients With Type I and Type II HAE**

– recruiting in United States.

<https://clinicaltrials.gov/show/NCT02741596>

**Pathophysiological study for autoimmune dysregulation of HAE**

– recruiting in Japan.

[https://upload.umin.ac.jp/cgi-open-bin/ctr\\_e/ctr\\_view.cgi?recptno=R000012021](https://upload.umin.ac.jp/cgi-open-bin/ctr_e/ctr_view.cgi?recptno=R000012021)

**Pharmacokinetics and Safety of Human Pasteurised C1-Inhibitor Concentrate (Berinert/CE1145) in Subjects with Congenital C1-INH Deficiency**

– recruiting in Italy.

[https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract\\_number:2010-019670-32](https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract_number:2010-019670-32)

**Phase 1 Study to Assess the Safety, Tolerability, and Pharmacokinetics of Recombinant Human C1 Esterase Inhibitor in Healthy Adult Subjects**

– recruiting in United States.

<https://clinicaltrials.gov/ct2/show/NCT02663687>

**Safety of Ruconest (recombinant human C1-Inhibitor) in 2-13 Year Old HAE Patients**

– recruiting in Czech Republic, Germany, Hungary, Israel, Italy, Macedonia, Poland, Romania, and Slovakia.

<https://clinicaltrials.gov/show/NCT01359969>

**Screening Protocol for Genetic Diseases of Mast Cell Homeostasis and Activation**

– recruiting in United States.

<https://clinicaltrials.gov/ct2/show/NCT00852943>

**Study of C1 Inhibitor (Human) for the Prevention of Angioedema Attacks and Treatment of Breakthrough Attacks in Japanese Subjects With HAE**

– recruiting in Japan.

<https://clinicaltrials.gov/show/NCT02865720>

**Study to Assess the Tolerability and Safety of Ecallantide (plasma kallikrein inhibitor) in Children and Adolescents With HAE**

– recruiting in United States.

<http://clinicaltrials.gov/show/NCT01832896>

**Study to determine the efficacy and safety of C1 Esterase Inhibitor liquid for injection compared to placebo in the prevention of Angioedema attacks in adolescents and adults with HAE**

– recruiting in Canada, Germany, Hungary, Israel, Romania, Spain, and United States. [https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract\\_number:2015-002478-19](https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract_number:2015-002478-19)

[www.clinicaltrialsregister.eu/ctr-search/search?query=eudract\\_number:2015-002478-19](https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract_number:2015-002478-19)

**Study to Evaluate the Clinical Efficacy and Safety of Subcutaneously Administered C1 Esterase Inhibitor for the Prevention of Angioedema Attacks in Adolescents and Adults With HAE**

– recruiting in United States, Canada, Germany, Hungary, Israel, Romania, and Spain.

<https://clinicaltrials.gov/ct2/show/NCT02584959>

**The Role of the Coagulation Pathways in Recurrent Angioedema (AngioCoag)**

– recruiting in France.

<https://clinicaltrials.gov/ct2/show/record/NCT02892682>

## Medical Papers

Here are summaries of some of the recently published HAE related scientific papers:

### Short-term prophylactic use of C1-inhibitor concentrate in HAE – by M. Magerl, Charité Universitätsmedizin Berlin, Germany et al.:

Although most HAE attacks appear to occur spontaneously, they can be precipitated by emotional stressors or physical triggers, including invasive medical or dental procedures or other physical trauma. Short-term prophylaxis is appropriate for patients anticipating situations that might precipitate an HAE attack. HAE guidelines recommend that plasma-derived C1 inhibitor, administered before the stressor event, be used as first-line treatment, if available, in situations in which short-term prophylaxis is desired. *Ann Allergy Asthma Immunol.*, November 2016

### Subcutaneous Icatibant for the Treatment of HAE Attacks: Comparison of Home Self-Administration with Administration at a Medical Facility – by I.M. Otani, Harvard Medical School, Boston, Mass., USA et al.:

Icatibant self-administration shortened attack duration and time to treatment, with no difference in safety or local tolerability compared with health care professionals administration. These findings support icatibant as an effective on-demand option for home-based treatment. *J Allergy Clin Immunol Pract.*, November 2016

### Misdiagnosis trends in patients with HAE from the real-world clinical setting – by A. Zanichelli, University of Milan, Italy, et al.:

A total of 418 of 633 Icatibant Outcome Survey patients with C1-INH-HAE type I or II had provided misdiagnosis data. Of these, 44.3 % received one or more prior misdiagnoses. The most common misdiagnoses were allergic angioedema and appendicitis. Patients with family members diagnosed as having C1-INH-HAE were significantly less likely to be misdiagnosed than patients without a family history. Misdiagnosis results in marked delays in receiving the correct diagnosis, during which time patients cannot access effective, lifesaving treatment. *Ann Allergy Asthma Immunol.*, October 2016

### Perioperative course in patients with hereditary or acquired angioedema – by L.S. MacBeth, Mayo Clinic, Rochester, MN, USA, et al.:

Life-threatening episodes of angioedema of the airway can occur in patients who received pretreatment and in patients who have previously undergone anesthesia uneventfully. Anesthesiologists must be ready to emergently manage a difficult airway and must be familiar with recommendations provided in consensus guidelines for the treatment of HAE and acquired angioedema patients. *J Clin Anesth.*, November 2016

### High attack frequency in patients with angioedema due to C1-inhibitor deficiency is a major determinant in switching to home therapy: a real-life observational study – by V. Squeglia et al., Università degli Studi di Napoli Federico II, Italy:

Home-based therapy is associated with better compliance compared with hospital-based therapy. The choice to adopt home-based therapy appears to correlate with a high attack frequency. Home-based therapy is a valid treatment option for patients with C1-INH-HAE and should be offered, especially to those with high attack frequency. *Orphanet J Rare Dis.*, September 2016

### HAE: Death after a Dental Extraction – by A. Forrest, Griffith University, Queensland, Australia, et al.:

A recognized trigger to HAE attacks is dental treatment, with tooth extraction frequently reported in the literature. The clinical symptoms may not manifest for many hours or even days after the procedure. *Aust Dent J.*, August 2016

### HAE Pathophysiology and Underlying Mechanisms – by B.L. Zuraw and S.C. Christiansen, University of California, USA:

The understanding that tissue swelling in HAE primarily involves the function of endothelial cell adherens junctions is driving increased attention to the role of endothelial biology in determining disease activity in HAE. While there has been considerable progress made, large gaps still remain in our knowledge. Important areas that remain poorly understood include the factors that lead to very low plasma functional C1 inhibitor levels, the triggers of contact system activation in HAE, and the role of the bradykinin B1 receptor. The phenotypic variability of HAE has been extensively documented but never understood. Future progress in understanding these mechanisms should provide new means to improve the diagnosis and treatment of HAE. *Clin Rev Allergy Immunol.*, October 2016

### Tolerability and Effectiveness of 17- $\alpha$ -Alkylated Androgen Therapy for Hereditary Angioedema: A Re-examination – by B.L. Zuraw, University of California, et al.:

17- $\alpha$ -Alkylated androgens therapy is usually effective for the treatment of HAE although a substantial fraction of patients with HAE do not achieve adequate benefit. The side effects are seen in almost all subjects who take the medicines. If used, 17- $\alpha$ -Alkylated androgens should only be recommended in the lowest effective and tolerated dose for carefully selected patients. *J Allergy Clin Immunol Pract.*, September-October 2016

### Prophylaxis in HAE with C1 inhibitor deficiency – by J. Greve, Ulm University Medical Center, Germany, et al.:

The decision for prophylaxis should no longer be based on single parameters such as the frequency of attacks but on adequate overall disease control including quality of life. *J Dtsch Dermatol Ges.*, March 2016

### Management of Pregnancy and Delivery in Patients With Hereditary Angioedema Due to C1 Inhibitor Deficiency – by T. González-Quevedo, Hospital Universitario V del Rocío, Sevilla, Spain, et al.:

Pregnancy has a variable influence on the clinical expression of C1INH-HAE. Attacks tend to occur more frequently but not to increase in severity. Vaginal delivery was mostly well tolerated. pdhC1INH prophylaxis should be administered prior to cesarean delivery and is also recommended before vaginal delivery if there are additional risk factors and should always be available in the delivery room. *J Investig Allergol Clin Immunol.*, 2016

### Icatibant as acute treatment for hereditary angioedema in adults – by H. Farkas, Semmelweis University, Budapest, Hungary:

The ready-to-use, pre-filled syringes of icatibant can be self-administered easily, effectively, safely and, importantly, conveniently. This has resulted in patients being able to quickly treat an attack and realize a dramatic change for the better in their lives. *Expert Rev Clin Pharmacol.*, June 2016

### The Humanistic, Societal, and Pharmacoeconomic Burden of Angioedema – by H. Longhurst, Barts Health NHS Trust London, United Kingdom, and A. Bygum, Odense University Hospital, Denmark:

HAE has profound effects on individual and family economic output, directly via absenteeism from school or work and indirectly via lost opportunities. Economic improvements associated with better treatments are offset by the high cost of new acute treatments, resulting in difficult pharmacoeconomic calculations. Worldwide, cost considerations present potentially insurmountable barriers to treatment for many patients, depending on the healthcare system in the individual country. *Clin Rev Allergy Immunol.*, October 2016

# News from the Industry

7 November 2016

In the financial results for the third quarter of 2016 the President and CEO of **BioCryst Pharmaceuticals Inc.** Jon P. Stonehouse, said:

“Our company’s primary focus is on the execution of the APeX-1 trial of BCX7353. The screening success rate in APeX-1 has been high, approximately 90 %, similar to

our previous studies in HAE. We are pleased that subject screening has gained momentum recently. Based on our current number of randomized patients, we are modifying our projection for reporting the results of part one to the first quarter of 2017.”

**(Source: BioCryst)**



11 November 2016

The Committee for Medicinal Products for Human Use (CHMP), an advisory committee of the European Medicine Agency (EMA), has adopted a positive opinion recommending an extension to the terms of the marketing authorisation for Ruconest to the European Commission. This recommendation will allow self-administration of Ruconest for acute HAE attacks by adolescents and adults with a new custom-designed administration kit. Following normal timelines after the adoption of the positive opinion by CHMP, the final decision from the European Committee is expected in January 2017. It is expected that the kits will become available for use in the various EU markets soon thereafter.

If the CHMP opinion is adopted by the European Commission and the approval of the associated educational materials is granted by national authorities, the new Ruconest self-administration kit will become available for patients, making dealing with an attack simpler. These custom-designed self-administration kits have already been favorably tested by volunteers. These kits are intended to enable patients or their caregivers to treat their HAE attacks in the comfort and privacy of their own homes or at any other place they choose, without the necessity of a healthcare professional (HCP) being present.

Prof. Bruno Giannetti, MD, PhD, **Pharming Group N.V.** COO, commented:

“This EU label change proposal is yet another testament to Ruconest’s well-established and favorable safety profile. Over 25,000 post-approval vials of Ruconest to treat HAE attacks have now been prescribed, making it a convenient, safe and effective way to stop these attacks. Following approval of this administration kit, it will be as convenient to use Ruconest in the EU as it already is in the US.”

Self-administration (at home or without a HCP present) was granted immediately on approval in the US as a result of more safety data being available at the time of the Biologics License Application (BLA) and subsequent Food and Drug Administration (FDA) approved label in July 2014.

Detailed recommendations for the use of this product will be described in the updated summary of product characteristics (SmPC), which will be published in the revised European public assessment report (EPAR), and will be available in all official European Union languages after a decision on this change to the marketing authorisation has been granted by the European Commission.

**(Source: Pharming)**



## 14 November 2016

**Pharming Group N.V.** has made significant progress with financing towards completion of the transaction with subsidiaries of Valeant Pharmaceuticals International, Inc. signed on 8 August 2016 for Pharming to acquire the commercialization rights to its own product Ruconest in North America.

The company has signed a term sheet with a syndicate of debt providers. The documentation for the loan instrument is being completed over the coming weeks. Cornerstone investors have also been found for a five year redeemable convertible bond.



Dr. Sijmen de Vries, Pharming's CEO, commented:

"We are very pleased to have put together a financing package and have alternatives at hand that minimize dilution of existing shareholders and which is attracting high-quality investors, so that we can complete the transaction with Valeant, move Ruconest forward and will enable Pharming to reach profitability potentially as much as three years earlier than under the Valeant license. Together with the excellent prophylaxis data presented at the American College of Allergy, Asthma and Immunology scientific meeting in San Francisco and the positive opinion of the European Committee for Medicinal Products for Human Use to allow self-administration for patients in Europe, the future for Ruconest is very promising and we are confident that we are creating good value for shareholders, patients and other stakeholders."

(Source: Pharming)

## 14 November 2016

The results of a "Randomized, Double-Blind, Placebo-Controlled Trial of Recombinant Human C1 Inhibitor for Prophylaxis of Hereditary Angioedema Attacks" has been presented by Marco Cicardi, Professor of Internal Medicine University of Milan, Hospital L. Sacco Milan and co-principal investigator for the study. The presentation was held during the American College of Allergy, Asthma and Immunology 2016 Scientific Meeting (ACAAI) meeting in San Francisco, USA.

### HAE and rhC1INH:

- HAE due to C1 inhibitor deficiency is a genetic disorder characterized by episodic, unpredictable, potentially life-threatening edema and other manifestations (eg, abdominal pain)
- rhC1INH is efficacious and well tolerated for acute HAE attacks
- Previous open-label study suggested potential benefit of rhC1INH prophylaxis

### Objective:

To evaluate the efficacy and safety of rhC1INH as prophylaxis against angioedema attacks in adolescents and adults with HAE.

### Results:

- rhC1INH 50 IU/kg (up to 4200 IU/kg) administered once or twice weekly significantly reduced the number of HAE attacks
- Most patients had  $\geq 50\%$  reduction during treatment with rhC1INH
- 22 of 23 patients (95.7%) had  $\geq 50\%$  reduction with twice weekly rhC1INH
- Administration of rhC1INH for up to 8 weeks was generally well tolerated
- Further research on rhC1INH as prophylaxis for the prevention of HAE attacks is warranted

(Source: Pharming)



## 16 November 2016

Current options for prophylaxis of acute HAE attacks are very limited. The international, prospective, double-blind, crossover, phase III COMPACT trial evaluated a volume-reduced, subcutaneous C1-inhibitor preparation, CSL830, for the prevention of HAE attacks.

After obtaining written consent, patients with type I/II HAE were randomized to one of four treatment sequences, each involving two 16-week treatment periods: 40 IU/kg twice-weekly followed by placebo, or vice versa; or similarly with 60 IU/kg. The primary efficacy endpoint was the time-normalized number of HAE attacks. Secondary efficacy endpoints were the proportion of responders (at least 50% reduction in time-normalized number of HAE attacks versus placebo) and time-normalized number of rescue medication uses. Adverse events (AEs) were monitored throughout.

## CSL Behring

## 22 November 2016

**KalVista Pharmaceuticals, Inc.** has announced the closing of the previously announced merger with **Carbylan Therapeutics, Inc.** As a result of the completion of this transaction, Carbylan changed its name to KalVista Pharmaceuticals, Inc.

KalVista is now funded with more than 38 million USD to support its portfolio of drug development programs, initially focused on oral plasma kallikrein treatments for HAE and diabetic macular edema.

KalVista is developing a portfolio of drugs for HAE, with the first oral HAE candidate, KVD818, having commenced a Phase I clinical trial in the third quarter of 2016. Additional HAE candidates are planned to

begin clinical trials in 2017 and beyond. KalVista's objective is to advance multiple oral drug candidates through Phase I, first-in-human studies in order to select those with the potential to deliver best-in-class status for further development.

Of 90 patients randomized, 79 completed the study. Both doses of CSL830 reduced the time-normalized attack rate versus placebo (both  $p < 0.001$ ); mean difference  $-2.42$  attacks/month (95% CI:  $-3.38, -1.46$ ), corresponding to an 89% median reduction (40 IU/kg), and  $-3.51$  attacks/month (95% CI:  $-4.21, -2.81$ ) corresponding to a 95% median reduction (60 IU/kg). Response rates were 76% (95% CI: 62, 87) (40 IU/kg) and 90% (95% CI: 77, 96) (60 IU/kg). Need for HAE rescue medication was reduced from 5.55 (placebo) to 1.13 uses/month (40 IU/kg) and from 3.89 (placebo) to 0.32 uses/month (60 IU/kg). AEs were reported in a similar proportion of patients across treatments; most were injection-site reactions, which were generally of mild severity and transient.

The self-administered, sub-cutaneous C1-inhibitor CSL830 was highly efficacious for preventing HAE attacks.

(Source: ACAAI oral abstract O002 presented November 13, 2016)

"The transition of KalVista to the public markets is an important milestone in the strategic development of the Company as we advance our pipeline of novel serine protease therapeutics," said Andrew Crockett, KalVista's CEO. "With the capital raised in this transaction and an experienced leadership team, KalVista is even better positioned to accelerate our clinical programs to bring new treatment options to patients with HAE and diabetic macular edema."

(Source: KalVista)







# HAEi around the world

Currently you will find HAE member organizations in 54 countries.

You will find much more information on the HAE representations around the globe at [www.haei.org](http://www.haei.org). On our World Map you will find contact information for our member organizations as well as care centers, hospitals, physicians, available medication, and clinical trials.

The information on [www.haei.org](http://www.haei.org) is being updated as soon as we receive fresh data from the national member organization.

