

## Primary Immunodeficiencies Week - Interview Johan Prevot (IPOPI)

**On the occasion of World PI Week we interviewed Johan Prevot, Executive Director of the International Patient Organisation for Primary Immunodeficiencies (IPOPI).**

**The world celebrates the Primary Immunodeficiencies Week for the 10<sup>th</sup> time this year. What are primary immunodeficiencies and what is the mission of the World PI Week?**

Today Primary Immunodeficiencies (PIDs) refer to a significant group of over 400 different rare disorders (416 to be precise) caused when some components of the immune system (mainly cells and proteins) do not work properly.

Whilst PIDs are generally recognised as rare disorders, some are more common than others and, taken as a whole, they represent an important group of people whose lives are profoundly impacted by their condition. PIDs are caused by genetic defects of the immune system most of which are hereditary. The immune system normally helps the body fight off infections by germs (or 'micro-organisms') such as bacteria, viruses, fungi and protozoa.

Because their immune systems do not work properly, people with PIDs are more prone than others to infections. When PIDs are left underdiagnosed or are misdiagnosed, the immune system remains defective, often leading to illness, disability, permanent organ damage or even death.

This year we are celebrating the 10<sup>th</sup> anniversary of World PI Week, a global annual awareness campaign co-organised by IPOPI and other key PID stakeholders Organisations in the field. Together we call for better access to diagnosis and treatment for all PID patients worldwide. Despite the many advances we are witnessing in our field we estimate that worldwide around 80% of patients are still undiagnosed and do not have access to the treatment they need. Even in a region like Europe, there are still great discrepancies in diagnosis, access to treatment and care, not to mention newborn screening. World PI Week provides a great momentum to bring together and engage all our stakeholders to make sure we make PID diagnosis and care a global public health priority.

**How many PID patients are there in Europe?**

Currently there 30,641 PID patients registered on the ESID registry which is the main European PID registry. However we know that many patients are not included in the registry and believe based on prevalence that there are 223,000 PID patients in the EU.

**Can you please tell us about the work if the International Patient Organisation for Primary Immunodeficiencies (IPOPI) that you are heading?**

IPOPI's current strategic plan outlines 4 key areas:

- To promote early diagnosis and ensure optimal access to care
- To develop, strengthen and support National Member Organisations
- To raise PID awareness globally
- To stimulate stakeholder collaboration

Everything that we do is centred around these strategic objectives. IPOPI acts as the global advocacy group for PID patients interacting with stakeholders on policy, regulatory, legislative, medical and scientific research matters. Among some of our key advocacy activities; we regularly organize PID Forum meetings at the EU Parliament to ensure the voice of our community is taken into account and defend the concept of patient-centred policies, we are driving a campaign on newborn screening and rare diseases such as severe combined immunodeficiencies, and we have recently obtained the inclusion of primary immunodeficiencies diagnostic tests into the World Health Organisation's List of Essential In-Vitro Diagnostics – PIDs are therefore the first rare diseases to be included in the list. We are involved in EU funded research programmes such as the SCIDNET and RECOMB consortia which seek to fast track the development of novel gene therapies for specific types of PIDs. We also organise every two years an international scientific conference (the International Primary Immunodeficiencies Congress) which focuses on the diagnosis and clinical management of PIDs. Raising awareness of PIDs and the issues confronting our community means we are driving and engaged in a number of campaigns such as World PI Week. Skills building and educational programmes designed to reinforce the skills set and support the leadership of our national patient organisations is another area that keeps us very busy.

### **What therapy options do PID patients have in Europe, which are the most promising and is there a cure?**

Although there are divergences in treatment levels and discrepancies of access still present in Europe that necessitates IPOPI's continued vigilance and advocacy, overall Europe is among the best placed regions when it comes to the range of PID treatments available in comparison with other world regions.

For a majority of PID patients, immunoglobulin (IG) replacement therapies are the only life-saving life-long treatments. These therapies can be administered either intravenously or subcutaneously. Because they are produced from human plasma, their stable supply is directly dependent on the ability to collect sufficient quantities of plasma. Most plasma in the world is obtained from apheresis (also called source) plasma directly collected from plasma donors. The rest of the plasma used to produce IG therapies comes from recovered plasma which is plasma recovered from blood donations. The supply of plasma derived medicinal products has historically and cyclically been confronted to shortages and supply tensions, most recently and specifically IG therapies. There is an agreement that Europe needs to do more to collect more plasma. Most of the world's plasma is collected in the US nowadays. We are advocating for "Regionally Balanced Global Plasma Sufficiency". This concept embraces the fact that all regions should do more to collect and contribute towards a balanced global supply of plasma whilst at the same time plasma medicinal products should circulate freely across the globe. This would have a dual benefit: patients would be able to access the best care based on a personalized treatment approach whilst at the same time we would reduce the heavy reliance on plasma coming from just one

world region. The COVID 19 has shown us why this approach is crucial. Dependency on just the US when it comes to plasma is not good but at the same time should a hyperimmune treatment be launched for COVID19, it would need to circulate freely across regions to those who need it.

Of course IG therapies are a part of the treatment story for PIDs. Many other therapies come into play including anti-infectious therapies, monoclonal antibodies, immunomodulating and immunosuppressing therapies, and indeed curative therapies such as haematopoietic stem cell transplantation and gene therapies. Gene therapies are a very promising area. The first first ex vivo stem cell gene therapy ever approved by the European Medicines Agency a few years ago was for the treatment of SCID-ADA. Since then research has continued and additional curative gene therapies for other types of severe primary immunodeficiencies should be made available in the future including for example X-Linked SCID, RAG-SCID, Chronic Granulomatous Disease and Wiskott Aldrich Syndrome.

### **What should be the next achievement of breakthrough science and innovation in the area of PID?**

Besides being a leading force in the area of gene therapy, the PID scientific community has led a number of other breakthrough research in the area of genetic diagnosis. We are now discovering new genes and new PIDs faster than ever. When I started working with IPOPI ten years ago, over 100 types of PIDs were known, today we have well over 400. There is no reason to believe this will stop. We have also significantly improved our understanding of the crossovers between PIDs and other conditions including autoimmunity, autoinflammation, malignancies, allergies. I think PID research has the potential to lead to many more discoveries with a benefit well beyond the PID field. Let's remember that the first ever gene therapy in humans and the first ever long-term successful curative bone marrow transplantation were pioneered by PID experts.

### **What are the biggest hurdles for PID patients' access to available therapies and what has to improve?**

The intrinsic challenges linked to plasma supply described below paired with a constantly growing demand for IG therapies (8% annually now for a number of years) means it will be vital to increase plasma collection. There is not any recombinant alternative treatment to IG replacement therapies in the horizon. As such, this is a major hurdle and key priority. Among other hurdles are reimbursement related challenges including for expensive gene therapies, the need for authorities to understand the importance of personalized treatment to reach optimal care which goes hand in hand with the need to educate about the fact that IG therapies are unique biologicals and cannot be approached as if they were generic medicines and of course the importance of newborn screening implementation. Ensuring these hurdles are tackled with the input of patients will be crucial.

### **How is COVID-19 affecting PID patients and what are your recommendations to them?**

IPOPI since the very early days of the COVID19 outbreak has been following research developments very closely, providing specific recommendations to our patient community, published statements (the very first one was published on February 12<sup>th</sup>), coordinated membership calls to ensure our national patient organisations are kept informed of the latest information, worked with regulators and experts in the field.

Importantly we are also collaborating on an international study on COVID-19 and PIDs (COPID19). With the emergence of SARS-CoV-2 and the COVID-19 pandemic, there is an urgent need to understand the impact of infection on immunodeficient individuals as there is currently very little information on the consequences and outcomes for PID patients. To date the data collected on COVID-19 in PID patients fortunately do not point to an increased risk of COVID-19, especially not in its severe form, although a few cases have been reported. However, certain PID patients might be at higher risk than others to catch this infection or a more severe course of the disease. We regularly update our recommendations to PID patients which are all accessible on the IPOPI website.

**At EuropaBio, we are concerned about the risk of disrupted access to care of patients with chronic and rare diseases which require long-term treatment provided in hospital environments, such as PID patients. How are you addressing this situation at IPOPI and how is the PID community coping with the current situation?**

Yes we are also concerned about this risk. We know this is a challenge and countries such as Cyprus have reported that PID patients were facing great difficulties in access their IG treatment. In Cyprus subcutaneous IG therapies are not available and although intravenous IG therapies are in certain EU member states sometimes administered at home, this necessitates training and infrastructure changes.

We have been advocating along with our national patient organisations and our colleagues from the Platform of Plasma Protein Users (PLUS) for ensuring continued access to homecare and where not possible for contingency measures to be put in place to enable those who cannot benefit from home based therapies to be able to do so without interruption to their treatment. The PLUS statement has just been put online on the IPOPI website's COVID19 page as well.

**For the first time, the World PI Week will run for 10 weeks, until the 1st of July 2020, in reference to the 10th anniversary. Can you tell us a bit more about IPOPI's planned activities this year?**

In light of the COVID-19 pandemic, the World PI Week Board has taken the decision to extend in time the campaign to protect public health and the health of PID patients. World PI Week 2020 will this year start on 22 April and run until July 1. We thought that this would enable our community to reorganise their plans and still be able to join in the campaign. The fact the COVID19 outbreak coincided with the 10<sup>th</sup> anniversary of the campaign made us decide to go for 10 weeks of campaigning for the 10 years' anniversary!

We strongly believe the success of a global awareness campaign is rooted in the ability to implement it regionally and nationally. Every year IPOPI organises a support

programme for our membership aimed at supporting their national efforts during the campaign. This year I am very pleased to say we are supporting 28 national campaigns bringing our support to national campaigns to well over 140 since the inception of World PI Week. In addition we will have our own set of activities on social media but also with the organisation of a webinar. COVID-19 will not stop us to raise awareness!

**We thank you for this interview and wish you a happy and healthy World PI Week.**



Johan Prevot has worked in the healthcare sector for 19 years in the field of patient advocacy and health policy. Mr. Prevot is the Executive Director of the International Patient Organisation for Primary Immunodeficiencies (IPOPI). As such he is responsible for the management and growth of IPOPI's global activities, awareness and advocacy campaigns as well as the strengthening of IPOPI's national member organisations network. Johan Prevot is a Board member of the European Reference Network on Rare Primary Immunodeficiency, Autoinflammatory and Autoimmune diseases (ERNRITA), Health First Europe (HFE) and the RECOMB research programme. He is also a Steering Committee Member of the Platform of Plasma Products Users (PLUS). Johan Prevot previously worked as Director of Health Policy Europe for the Plasma Protein Therapeutics Association (PPTA), a trade association in the field of plasma protein therapies. Johan Prevot has throughout his career been an advocate for improving patient access to early diagnosis and treatment in the field of rare diseases including primary immunodeficiencies, haemophilia and alpha 1 antitrypsin deficiency among others. Access to diagnosis and treatment for primary immunodeficiencies and other rare plasma related disorders varies greatly from country to country and many people living with these conditions in developing countries still nowadays can not access their life enhancing and/or life saving therapies. Mr Prevot has and continues to work closely with other stakeholder organisations sharing common objectives and priorities.