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EDITORIAL

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View from inside—Gyrate atrophy: From defeat to action

1 | OUR WORLD TURNED UPSIDE DOWN

It was April 25, 2014. Primary schools were celebrating the birthday of the King with a sports and cultural activities day. Abel, who was 5 years at the time, had to leave school a bit earlier on this eventful day. He had to go to the ophthalmologist for a routine visit. After summer break, he would graduate from kindergarten to primary school and would learn to read. We had a feeling he needed glasses, which seemed nothing out of the ordinary. Many people in our family wear glasses.

His mother took him to the local clinic. The optometrist confirmed mild myopia, which was in line with our expectations. Protocol states that children below a certain age need to see an ophthalmologist to confirm their refractive error—adults often only go to the optometrist. Abel was only five, so he was seen by the ophthalmologist.

The ophthalmologist performed a more extensive investigation. While investigating the retina, she noticed something out of the ordinary. There were white spots on the retina that were not supposed to be there. Although she did not immediately recognize the disease, she did realize it was concerning and required academic expertise. That afternoon, she reached a pediatric ophthalmologist at Amsterdam University Medical Centers.

The pediatric ophthalmologist postulated a hypothesis, but that needed to be confirmed. We were summoned to Amsterdam. In 1 day, we saw the pediatric ophthalmologist, a pediatrician consultant in inherited metabolic disorders, and a clinical geneticist. And then, after weeks of waiting, we finally received an official diagnosis.

Abel suffers from gyrate atrophy of the choroid and retina: an ultra-rare and progressive condition currently known to affect only 20 people in our entire country. An enzymatic defect in the breakdown of protein leading to progressive damage of the retina, causing visual impairment, and eventually blindness. To this day, no truly effective treatment is available.

Our world collapsed. What started out as a routine eye check became an inherited metabolic disorder (IMD) with inevitable blindness for our 5-year-old. We were devastated.

2 | FROM DEFEAT TO ACTION

Somewhere in the first few months after the diagnosis, we went on holiday. I remember wondering if we could ever be happy again. It was horrible, knowing that our child would lose his vision and there was so little we could do about it. Somewhere during that year, however, another feeling started to arise amidst the hopelessness. We could not sit back and let this happen to Abel. We had to do something.

We asked a lot of questions, some of them in vain, others not so much. Through Abel's pediatricians, we learned that there were currently no ongoing clinical research projects focused on gyrate atrophy, which felt like a setback. Nonetheless, we persisted. We only needed one researcher with interest in the disease to put it back on the agenda, to put in the effort to start up something new.

3 | PERSEVERANCE

During our search for research projects and interest, we encountered many setbacks. We got in touch with international researchers, who responded with nothing but old news. We spent a lot of time waiting for our questions to be discussed amongst teams of busy medical specialists. Through it all, we tried to cling to hope. Hope gave us the energy to power through, to keep on asking questions, to keep on bringing it up during every visit to the hospital.

In the last 30 years, there had been no developments in gyrate atrophy research, but there had been developments in biomedical research as a whole. There were new techniques that could be applied to gyrate atrophy, new methods that could be used to elucidate the underlying mechanisms of the disease. This rekindled the research interest in gyrate atrophy as well.

However, Rome was not built in a day and neither are research projects. A lot of time goes into research—not just in the studies themselves, but also in setting up the research projects, finding the right people to work with, and taking the necessary legal steps within a large organization such as a university hospital.

Abel was diagnosed in 2014, but it was not until 2017 that the gyrate atrophy research started to gain momentum.

We kept on trying to bring researchers together and convince them of the importance of research about gyrate atrophy. Eventually, a research line was started, called 'Bird's Eye View on Gyrate Atrophy of the Choroid and Retina' (Gyrate Atrophy). We were involved in writing many grant applications, and even made a film for a large funding organization.

We were also often waiting at the sidelines and had little insight into what was happening and needed to happen. There were periods of very little contact with the medical specialists, periods in which we tried to remain calm while anxiety grew. Before the end of 2017, the first grant application was out. However, this grant was rejected and the first grant was not awarded until the end of 2018, this moment did not only mark the start of gyrate atrophy research, but also the return of hope.

4 | REFLECTION

Ever since the first grant application was out, we have been involved during many steps on the way. We were there when the first two research projects were set up and started running. We were there when the first clinical guideline was written, to provide the patient perspective. We were there in March 2023, when the first international Gyrate Atrophy symposium took place, and we spoke about our experiences as a family and a patient representative in scientific research.

It took time to set this up and the road was never straightforward. Many factors attributed to our success as a family.

- *Open-minded researchers*: It all starts with researchers who see value in collaboration with patients.
- *Know your way around the academic world*: The academic world is complex and it helps to understand the different factors that play a role in academic success and defeat.
- *Make sure you do not cause delay*: Cooperation is necessary to succeed. Between patients, clinicians, and researchers, but also between clinicians and researchers from different disciplines.
- *Perseverance*: It is not an easy road to walk and there will be many obstacles along the way. It is important to not give up hope.
- *Patience*: Research is not started overnight. From a patient perspective, you spend a lot of time waiting. That requires patience.
- *LUCK*: We would have never succeeded if we had not been lucky. We were lucky to find open-minded and dedicated researchers, we were lucky that funders awarded us grants, and so on.

5 | TOWARD THE FUTURE

We are grateful and proud of what has been accomplished since Abel was diagnosed in 2014. There is still a long way to go, but we are hopeful that the attention generated for gyrate atrophy, as well as the energy and persistence of researchers all over the world, will eventually lead to the development of new treatments for gyrate atrophy.

Time is ticking, and despite all the effort, there is no treatment that can recover retinal tissue that has already been lost. Abel is 13 now, and we do not yet know how the disease will develop over time.

In the end, I believe that collaboration is key. We are stronger together, and together, we can find new therapeutic options for gyrate atrophy. For Abel.

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CONFLICT OF INTERESTS STATEMENT

The author declares no conflict of interest.

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