



Press Release

Vall d'Hebron and "la Caixa" present a pioneering facility to study the brains of patients with migraine: the Migraine Adaptive Brain Center

- **Jaume Giró, CEO of "la Caixa" Banking Foundation, Dr Albert Salazar, manager of the Hospital Universitari Vall d'Hebron, and Dr Patricia Pozo-Rosich, head of the Migraine Adaptive Brain Center, today presented this facility, unique in Spain, one that combines clinical research, the provision of care, training and patient education**
- **"la Caixa" has donated 660,000 euros for the creation of this facility, which will enable researchers to learn more about the factors that cause migraine, identifying habits and designing treatments that can improve the brain health of those affected and society as a whole**
- **The Migraine Adaptive Brain Center, which will provide its services for more than 8,000 people a year, is also designed as a training facility to empower patients to become their own prescribers**
- **According to the World Health Organisation (WHO), migraine is the second-most disabling neurological disease in the world. In Spain, more than 4.5 million people suffer from migraine (three times as many women as men). Overall, migraine is considered the sixth-most disabling illness in terms of years lost, suffering and loss of productivity**

Barcelona, 3 October 2019.- This morning, Jaume Giró, CEO of "la Caixa" Banking Foundation, Dr Salazar, manager of the Hospital Universitari Vall d'Hebron, and Dr Patricia Pozo-Rosich, head of the Migraine Adaptive Brain Center, presented a new treatment and research facility. The new facility, whose head is Dr Pozo-Rosich, will enable advances to be made in studies of

the brain's response to the environment and in our understanding of how the migrainous brain works and in finding new treatments to improve the lives of people affected by this silent illness. The Migraine Adaptive Brain Center will also treat patients, who will be able to take part, if they wish, in research projects implemented at the facility. Indeed, one of the objectives of this new facility is precisely to provide patients with strategies to predict migraine attacks and help them to live with this pathology while improving their quality of life to the maximum.

Migraine is a brain condition that presents recurrent headache episodes and attacks associated with other symptoms (hypersensitivity to light, noise and movement; nausea; alteration of cognition). Attacks last between 4 and 72 hours and prevent the sufferer from conducting their everyday activities. During a migraine attack, inflammation of the meninges occurs as a result of the release of inflammatory substances from the trigeminal nerve. Pain, the most disabling symptom of migraine, is caused by inflammation of the meninges. This type of headache can occur from once a year to several times a week. According to the WHO, migraine is the sixth-most disabling disease in terms of lost years, suffering and loss of productivity. For example, a person suffering from a weekly migraine attack from the ages of 14 to 50 years loses four-and-a-half years of their life. Migraine can affect children and adults, and, especially, women. In Spain, more than 4.5 million people suffer from migraines (three times as many women as men). The cost of the disease is over 1,800 million euros per year in Spain and 111,000 million euros in the European Union as a whole.

According to Dr Patricia Pozo-Rosich – who is also the head of the Vall d'Hebron Headache Unit and of the VHIR (Vall d'Hebron Research Institute) Neurological Pain and Headache Group, **“the new Migraine Adaptive Brain Center will help us to reach a much better understanding of how the brains of people with migraine work, and to launch studies to find new treatments”**. All this will take place under an interdisciplinary and complementary approach involving studies of genetics, neurophysiology and neuroimaging, with particular emphasis on the education of patients. The staff includes neurologists, psychologists, neuroscientists, biotechnologists, computer scientists, biologists and biostatistics experts.

For his part, Jaume Giró noted that: **“We invest in research because we believe that this is investing in the future wellbeing of people, and because a person suffering from illness today is a person who has fewer opportunities. That is why we are convinced that**

promoting health is a way of promoting equal opportunities and, ultimately, social advancement and welfare”.

A pioneering facility in Spain and a reference in Europe

The concept behind the Migraine Adaptive Brain Center is totally innovative on several counts. One of the most important is that the new facility combines the provision of care to patients with clinical research aimed at increasing our understanding of migraine and improving the health of people who suffer from it. Studies will be conducted, not only into ways of improving the health of people with migraine, but also into the brains of patients in order to understand how the brain enables us to adapt to our environment. The findings will be transferred with the additional aim of improving the health of the rest of the population. Just as researchers study the brains of people with Alzheimer's to learn how memory or cognition work, the Migraine Adaptive Brain Center will seek to ascertain why the brain with migraine reacts so strongly to certain stimuli, such as light or noise. The brain of a person without migraine adapts to the environment, while that of a person with migraine has more difficulties in adapting to sudden changes. For example, a light that is too intense or a repetitive noise may appear merely annoying to most of the population, but these stimuli can trigger migraine attacks in sufferers. It is like a computer that crashes because it is trying to run too many programs. Understanding how the brain of a person with migraine synchronises (or hyper-synchronises) with the environment can also generate practical applications to improve the quality of life of other people. For example, promoting healthy lighting and noise conditions in the workplace, to the benefit of the brains of all workers.

The Migraine Adaptive Brain Center is also designed as a space to empower patients. At the entrance are three touch tablets where patients can report on different aspects of their state of health and quality of life, such as the number of migraines they have had in recent days, their intensity, what they were doing when they suffered the attacks and so on. This is a space designed to educate patients about the main factors they should take into account in order to understand their illness. And, as they themselves provide much of the data, they can take greater responsibility for treating their illness.

This data is transferred directly to the researchers, who analyse and integrate it into that obtained in the laboratories. Precisely another of the innovative aspects of the new Migraine Adaptive Brain Center is that it has three laboratories where patients will be tested. These spaces are

completely soundproofed and sensorially and electromagnetically isolated so that studies can be conducted without interference, as certain sound and sensory stimuli affect people with migraine. The laboratories adjoin the consultation rooms themselves, improving workflow and communication between researchers and clinicians, and encouraging the flow of patients to and from consultation and research.

Moreover, to enable patients to adapt to daily life, facilities at the Migraine Adaptive Brain Center include a space where the brain of patients can be studied while they perform everyday tasks. Patients with migraine have a chronic disease, and this new space will enable them to receive advice that can help them adapt and live better with it.

Dr Patricia Pozo-Rosich noted that migraine is much more severe and disabling than a headache: **"During a migraine attack, the patient has to stay at home, with the lights off and without noise. It is very important to raise awareness about this hereditary illness, one that has a very negative impact at the most productive time of life. The heart gives years of life, but the brain gives quality of life. And we now start out to resolve this challenge, through initiatives, projects, energy and efforts like this one"**.

Further information:

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