

Alcimed

Press release

A solution to the lack of effectiveness of treatments for neurodegenerative diseases: targeting inflammation!

Due to the lack of certainty about their mechanism of action, research surrounding neurodegenerative diseases seems to be at an impasse. However, today, other therapeutic approaches are being considered, starting with neuroinflammation. Alcimed, an innovation and new business consulting firm, follows the advances of this research, which is opening up new treatment opportunities.

Paris, May 16, 2019 – While current treatments for neurodegenerative diseases can reduce symptoms, they do not prevent the diseases from progressing. Over the past several years, there have been many research avenues to try to identify the root cause of these conditions, which could spearhead the fight against their progression. Inflammation is an area of growing interest, as it not only provides a better understanding of the pathophysiology of neurodegenerative diseases, but also helps to develop new therapeutic strategies to be tested.

A now controversial historical therapeutic approach

Neurodegenerative diseases are characterized by the progressive death of nerve cells. Despite apparent heterogeneity, decades of research have shown that these diseases share common pathophysiological mechanisms, with almost all of them associated with the abnormal accumulation of amyloid proteins. Therefore these poorly folded protein aggregates seem to be correlated with the progression of neurodegenerative diseases.

Targeting the "amyloid cascade" to eradicate the cause of the disease has thus been the hypothesis favoured by all pharmaceutical companies for the past 20 years. But in the aftermath of the successive failures in clinical trials, this therapeutic approach is now controversial. Today, with no solution to address the cause or to prevent the progression, the diseases are only managed by default with symptomatic treatments that help patients' lead better lives with their disease. However, due to their limited effectiveness, the treatments are no longer reimbursed in France since 2018.

Stopping the inflammation to stop the progression

Without any effective pharmacological solution, and with a now controversial historical pathophysiological mechanism, the need for therapeutic research remains paramount.

So far, the mechanisms through which the toxicity of protein aggregates is transported are still unknown. Several hypotheses have been put forward, including that of inflammation: the accumulation of proteins may cause an inflammatory immune response in the nervous system that could, in the long term, be harmful to nerve cells.

In recent years, there has been a growing scientific interest in this approach: the number of publications on the subject is soaring, and recent research shows that inflammation is now considered to be a proven cause of the progressive nature of neurodegenerative diseases. Consequently, the modulation of inflammation in the central nervous system, still known as neuroinflammation, represents a new approach to finding treatments to limit the progression of neurodegenerative diseases, as Rodolphe Renac, head of Alcimed's healthcare business unit in Princeton, summarizes: *"Alzheimer's disease is now increasingly studied from an 'inflammation' perspective, although it is considered a neurodegenerative disease. And this approach of targeting the mechanisms of inflammation will be applied in many other degenerative diseases, with inflammation being at the heart of many pathological conditions".*

French academic institutions at the forefront of this field of research

Following the failure of industry players in the fight against neurodegenerative diseases - and in particular last year's disaster in the area of Alzheimer's research projects: clinical failures of Lundbeck, Takeda, Merck & Co, Janssen Biotech, AstraZeneca, Eli Lilly, and the outright dismantling of Pfizer's program in January 2018 - pharmaceutical companies are now shy to invest in upstream research initiatives.

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It is primarily the academic laboratories that are leading these new research avenues towards the modulation of the immune system, with the French institutes in the forefront. With respectively over a hundred and over 150 publications on the subject over the past 10 years, the CNRS and INSERM have played a major role in the research on neuroinflammatory mechanisms in neurodegenerative diseases.

When will the next therapeutic candidate from the French benches be available?

ABOUT ALCIMED - www.alcimed.com

Founded in 1993, Alcimed is an innovation and new business consulting firm specialized in life sciences (healthcare, biotech, agri-food), chemicals, materials, energy and mobility; as well as in aeronautics, space & defense, and public policies. Today Alcimed works with major industrial groups, SMEs, private equity players, start-ups, and institutional players. ALCIMED relies on a team of 180 highly-skilled individuals to help its clients in the exploration and development of their uncharted territories: new technologies, new offers, new geographies, possible futures, and new ways to innovate. Alcimed is headquartered in Paris and has offices in Lyon and Toulouse in France, as well as in Germany, Belgium, Switzerland, the United-States and Singapore.

Alcimed is a member of CroissancePlus and the ACI (Association des Conseils en Innovation – Association of Consultants in Innovation).

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