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Promising Hungarian medicine development in the field of pain relief

The project "Development of new, innovative, multi-target analgesics: efficacy, preclinical and human phase I studies", which will last for about 6 years, was funded with HUF 1.4 billion from the European Union. Pharmacologists at the University of Pécs, together with researchers from Semmelweis University, are developing a new medicine for chronic neuropathic pain conditions affecting a large group of patients who are untreatable or difficult to control.

It is very rare in the life of a researcher - Prof. Dr. Zsuzsanna Helyes (University of Pécs, Medical School, Institute of Pharmacology and Pharmacotherapy) answered our question - that a project that started from an original university development, the first experiments of which we did with our group and the idea came from Professor Péter Mátyus, can be brought to a stage where the medicine candidate can be administered to humans within ten years. This is a special case, it has never been done in Hungary in my decades of professional experience, and it is not often done internationally. Pharmaceutical development is an extremely lengthy and costly process, and can only be achieved through a combination of costly experience and professional competence.

Asked how this new medicine candidate is better than previous ones, she said that there had been no breakthroughs in analgesics in recent centuries. All the new painkillers in the advertising are based on the same two mechanisms of action that were described centuries ago for aspirin and morphine. There has been no breakthrough in the mechanism of action, even though there are countless chronic, neurological pain conditions in which they are either ineffective or only moderately effective, or they have to be used for so long and in such high doses that they cause a lot of side effects.

"Our medicine candidate is based on a completely new concept,

a multi-pronged mechanism, some elements of which are implemented in the peripheral nervous system and some in the central nervous system. By moving in one direction with multiple points of attack, we hope to make it more effective and safer, one that the body can tolerate in the long term. But pharmaceutical development is a longer process. We are now at the point where we have already proven the safety and efficacy of the medicine in healthy volunteers, testing in patients can start next year, first we need to prove it in a small patient population, then internationally in a population of thousands, only then can the medicine be registered, until then a lot of money and pharmaceutical partners will be needed, it will take at least 3-5 years, if there are no pitfalls, and then the finished medicine will be available in pharmacies."