

NEW PERSPECTIVES ON THE TREATMENT OF COMPLEX REGIONAL PAIN SYNDROME BY KETAMINE

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Complex Regional Pain Syndrome (CRPS) can result in a chronic pain condition that is disabling and difficult to treat. Among the therapeutic strategies that can be used, ketamine, administered over five days at infra-anesthetic doses, has a place of choice. However, it is an invasive treatment and the mechanism of analgesic action is not known. Our work focused on two aspects of the treatment of CRPS by ketamine: predicting therapeutic efficacy and understanding mechanisms of action. Initially, in 105 CRPS patients, we assessed the benefit of pre-treatment Technetium 99 bone scintigraphy to predict the therapeutic efficacy of ketamine. This efficacy was correlated with the relative increase in inflammatory activity and bone remodeling detected by scintigraphy. In a second study, evaluating cortical excitability by transcranial magnetic stimulation and including 19 CRPS patients, we observed that ketamine strongly and bilaterally repressed intracortical facilitation, a glutamatergic transmission parameter, and on the other hand restored the intracortical inhibition corresponding to the pain side, a gabaergic parameter which was much altered before the treatment. The analgesic effect of ketamine was correlated with this restoration of inhibition as well as the reduction of the facilitation corresponding to the healthy side. Thus, ketamine seems to play a role in the balance of gabaergic and glutamatergic transcallosal influences. This work allowed new physiopathological mechanisms to be characterized as well as a new justification of the therapeutic efficacy of the ketamine in the CRPS.

Biography

Doctorate of medicine at Pierre and Marie Curie university, Pitié salpetriere hospital in 1995, graduated of immunology thorough and immunogénétique at the Pasteur institute and Pierre and Marie Curie university in 1999, internal medicine specialist in 2007 and doctorate of science in physiopathology and neuroscience at Créteil Paris Est university in 2017. Chief of pain medicine department at Sud Seine et Marne hospital since 2003, Past president of the medical committee, Past director of the department of emergency, medicine and re-education. Researcher at laboratory EA 4991 "nervous excitability and therapeutic since 2014, my research topics concerns the CRPS, the relation between pain immunity and inflammation and finally, postural disorders and nociception. Co-Head of University Education Pain and Palliative Care at Paris Est Créteil 15 major papers publishing, auteur and coordinator the French book "pain, inflammation and autoimmunity "in 2009. Participation to several books and reviewer of Pain Medicine journal.

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