A significant contribution to the understanding of chronic back pain as the disorder, having psychosomatic mechanisms that made successful use of antidepressants in the integrated treatment of such patients.

The aim of our study was to investigate the efficacy of selective serotonin reuptake inhibitor in patients with chronic back pain.

Methods: In this trial we used SSRI fluoxetine on 60 patients (42 women and 18 men) with chronic back pain in age from 45 till 60. Mostly the main cause of dorsalgia was chronic osteoporosis (80%). Patient received a drug once a day in a 20 mg dose for 6 weeks. Before start of trial all the patients discontinued using of NSAIDs. To evaluate the pain we used visual analog scale of pain.

Results: Using a SSRI fluoxetine has shown a very good results. 29 patients (48,3%) of patient have shown significant reducing of pain during treatment (decreasing of VAS from average 4.9 till 1.5), 28 patients (46,6%) have shown slightly less reducing of pain (decreasing of VAS from average 4.5 till 2.6), 3 patients (5%) quitting the trial in first week due to adverse effects (nausea, insomnia, sexual disorders).

Conclusion: In the end of trial all the patients continued to use the drug on their own. We can recommend to use SSRIs as a part of complex therapy of low back pain, due to its safety and high efficacy.

PT627
Effect of Antidepressant Treatment on BDNF concentrations in Patients with Somatization Disorders
Jong-Chul Yang, Nam-In Kang, Jong-Il Park, Yong-Ku Kim

Abstract

Objective: Brain-derived neurotrophic factor (BDNF) is known to be involved in the plasticity of neurons and pathophysiology of several psychiatric illnesses. The purpose of this study was to determine whether there is an abnormality of plasma BDNF concentrations in patients with somatization disorder, and the alteration after antidepressant treatment.

Methods: The 27 patients with somatization disorder (mean age: 46.33 ± 9.73 years, 12 males, 15 females) who fulfilled the DSM-IV criteria for somatization disorder and 27 healthy controls (mean age: 46.81 ± 6.81 years, 12 males, 15 females) were enrolled in the study. The clinical assessment of the somatization disorder was measured by Korean version of Wahler physical symptom inventory, Beck Depression Inventory, Hamilton Depression Rating Scale, Hamilton Anxiety Rating Scale. BDNF was assayed using non-parametric Mann-Whitney test by the SPSS 15.0 (p<0.05). Moreover, we assessed the alteration of plasma BDNF concentrations after treatment using Wilcoxon Signed Ranks test. 22 among 27 patients with somatization disorder took the selective serotonin reuptake inhibitors for 9 to 16 weeks. And the correlations between the BDNF level and the clinical assessment scale scores were examined using Spearman correlation coefficient.

Results: The mean plasma BDNF levels of 27 patients with somatization disorder were significantly lower compared with those of controls (83.61 ± 89.97 pg/ml vs. 771.36 ± 562.14 pg/ml, Z=−5.735, p<0.001). In 22 patients after the antidepressant treatment, the plasma BDNF concentrations were significantly increased (118.13 ± 91.45 pg/ml vs. 72.92 ± 88.21 pg/ml, Z=−2.029, p=0.042). However, clinical assessment scales did not reveal any significant correlations with BDNF levels.

Conclusions: These results suggest that BDNF may play a role in the pathophysiology of somatization disorder.

Index Words: BDNF, Neurotrophin, Somatization disorder

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PT628
First in class melatonin MT2 receptors agonists for neuropathic pain
Gabriella Gobbi 1,*, Martha Lopez-Canul 1, Enza Palazzo 2, Sergio Dominguez-Lopez 1, Livio Luongo 3, Baptiste Lacoste 4, Stefano Comai 5, Debora Angeloni 2, Franco Fraschini 4, Gilberto Spadoni 5, Annalida Bedini 2, Giorgio Tarzia 3, Sabatino Maione 4, Vinicio Granados-Soto 6 1 Neurobiological Psychiatry Unit, Department of Psychiatry, McGill University, Montreal, QC, Canada 2 Department of Experimental Medicine, Second University of Naples, Naples, Italy 3 The Institute of Life Sciences, Scuola Superiore Sant’Anna, Pisa, Italy 4 Department of Pharmacology, Chemotherapy and Medical Toxicology, University of Milan, Milan, Italy 5 Institute of Medicinal Chemistry University Carlo Bo, Urbino, Italy 6 Neurobiology of pain laboratory, Departamento de Farmacobiologia, INVESTAV, Sede Sur México D.F., Mexico

Abstract

Neuropathic pain is a major public health problem for which only few treatments are available. Translational studies showed that melatonin, a neurohormone acting on MT1 and MT2 receptors, has analgesic properties, likely through MT2 receptor. Here, we elucidated the effects of the novel selective melatonin MT2 receptor partial agonist N-[2-[(3-bromophenyl)-4-fluorophenylamino]ethyl]acetamide (UCM924) on neuropathic pain animal models and its mechanism of action.

In rat spinal L5-L6 nerve ligation (Kim and Chung’s method) and spared nerve injury models (SNI), UCM924 (20–40 mg/kg, s.c.) produce a prolonged antiallodynic effect that is 1) dose-dependent and blocked by the selective MT2 receptor antagonist 4P-PDOT, 2) superior to high doses of melatonin (150 mg/kg) and comparable to gabapentin (100 mg/kg), but 3) without noticeable motor-sedative effects in the rotarod test. Using double staining immunohistochemistry, we found that MT2 receptors are expressed by glutamatergic neurons in the rostral ventrolateral periaqueductal gray (vPAG). Using in-vivo electrophysiology combined to tail flick, we observed that microinjection of UCM924 into the vPAG decreases tail flick responses, depressing the firing activity of ON cells and activating the firing of OFF cells, an effect MT2 receptor-dependent. Moreover, UCM924 showed also antinociceptive properties in the hot plate model and in the formalin test. Altogether, these data demonstrate, for the first time, that selective MT2 receptor partial agonists have analgesic properties through modulation of brainstem descending antinoiceptive pathways and indicate that MT2 receptors may be a novel target in the treatment of neuropathic pain.

PT629
The investigation of the antinoiceptive effect and mechanisms of action of curcumin in mice
Patna Sultant Kilic 1, Ozlem Turkan Acar 1, Ayten Bilir 2, Bilgin Kaygısız 2

Abstract

Curcumin is a polyphenolic substance extracted from the rhizome of the Indian curry plant, Curcuma longa, widely used in Indian and Asian traditional medicine. It has been reported that curcumin possesses anti-inflammatory and antinociceptive properties. In this study, we investigated the antinociceptive effect and mechanisms of action of curcumin in mice.

Methods: Male and female mice of the C57BL/6 strain were used. The antinociceptive effect of curcumin was evaluated using the hot plate test and the tail flick test. The mechanisms of action were investigated using several pharmacological approaches.

Results: Curcumin showed a significantly higher antinociceptive effect in the hot plate test and the tail flick test compared to the control group. The mechanisms of action were mediated by the serotoninergic system and the endocannabinoid system.

Conclusions: Curcumin has potential therapeutic applications in the treatment of pain disorders.