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Anti-inflammation and neuroprotective drugs benefit the treatment of bipolar II disorder patients

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Low dose memantine might possess anti-inflammatory and neuroprotective effects mechanistically remote from the NMDA receptor. We investigated whether using valproic acid (VPA) add-on memantine (5 mg/day) to treat bipolar II disorder (BP-II) is more effective than using VPA alone. In this randomized, double-blind, controlled 12 week study, BP-II patients were randomly assigned to a group: VPA+Memantine or VPA+Placebo (Pbo). The Hamilton Depression Rating Scale (HDRS) and Young Mania Rating Scale (YMRS) were used to evaluate clinical response, alone with plasma levels of tumor necrosis factor (TNF-α), interleukin 6 (IL-6), IL-8, and IL-1and metabolic profiles during week 0, 1, 2, 4, 8 and 12.After 12 weeks, there was a significant increase of high-density lipoprotein cholesterol (HDL-C) ($p<0.009$) in the memantine group compared with the Pbo group. The TNF-α were significantly decreased in the memantine group than in the Pbo group ($P=0.013$).The changes in HDRS score were significantly associated with changes in IL-6 ($P=0.012$) and IL-1($P=0.005$) levels; changes in YMRS score associated with changes with TNF-α($P=0.005$) level changes.The association between *BDNF* Val66Met polymorphism with treatment response was evaluated. After stratified by *BDNF* Val66Met genotypes, significantly greater decreases in HDRS scores were found in the VPA+memantine group in patients with the Val/Met genotype ($p=0.004$). We conclude that memantine might benefit treatment of BP-II via decreasing cytokines and increasing HDL-C. The BDNF Val66Met polymorphism influences responses to add-on memantine by decreasing depressive symptoms in BP-II.

Biography

Ru-Band Lu graduated from National Defense Medical center Taipei, Taiwan, in 1972. He became a Professor of Psychiatry at National Defense Medical Center in 1989. 1992 to 1993, he was a Visiting Scientist in Human Genetics at Yale University, New Haven, CT; he studied genetics, psycho-neuroimmune pharmacology. 2003 to 2009, he was the Director of the Institute of Behavioral Medicine, National Cheng Kung University, Tainan, Taiwan. In this decade, he worked in the developmental navel treatment model. He has published more than two hundred research articles in the recent fifteen years.

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