Polyphenol rich herbal congee, "MP", enhances attention, working memory and bone formation markers but decreases bone resorption markers

Jintanaporn Wattanathorn, Sudarat Sungkamanee and Woraluck Somboonporn
Khon Kaen University, Thailand

Statement of the Problem: Cognitive impairment and osteoporosis are recognized as the important problems in menopause. The current therapeutic via hormone therapy can increase breast cancer. Therefore, the novel therapy against the mentioned conditions is required. Our preclinical study has clearly demonstrated the neuroprotective and osteoprotective activity of the combined extract of Polyfonum odorontum and Morus alba (MP) in animal model of menopause. Therefore, we hypothesized that the herbal congee just mentioned should improve memory and bone turnover rate in menopause. To elucidate this issue, this study was carried out.

Methodology & Theoretical Orientation: This study was a randomized, double blind, placebo controlled study. Forty-five (45) participants were randomly assigned to receive a placebo or MP (50, 1500 mg) treatments once daily for 8 weeks. The cognitive function and working memory were assessed via the auditory oddball paradigm of event-related potentials and computerized battery tests respectively at baseline and two month of study period. The serum Acetylcholinesterase (AChE), Monoamine Oxidase (MAO) activities and bone formation markers comprising of osteocalcin, Alkaline Phosphatase (ALP) and calcium together with serum C-telopeptide of type I collagen (CTX), a bone resorption marker were also assessed.

Findings: High dose of MP significantly decreased N100 and P300 latencies but increased N100 and P300 amplitudes. In addition, subjects who consumed MP at dose of 1500 mg per day showed the significant decrease of serum AChE, MAO and CTX activities but enhanced bone formation markers comprising of osteocalcin and Alkaline Phosphatase (ALP). Taken all together, the cognitive enhancing effect of MP may occur partly via the decreased Acetylcholinesterase (AChE) and Monoamine Oxidase (MAO) activities whereas the improvement of bone turnover may occur via the increase bone formation but decreased bone resorption.

Conclusion & Significance: The herbal congee is the potential herbal supplement for improving working memory and bone dynamic in menopause.

Biography

Jintanaporn Wattanathorn has completed her PhD from Mahidol University, Thailand. She is the Director of Research Institute for Human High Performance and Health Promotion, Faculty of Medicine, Khon Kaen University, Thailand. She has published more than 90 papers in reputed journals and has been serving as an Editorial Board Member of repute.

jinwat05@gmail.com