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The impact of *Rhizoma Chuanxiong* in fetal bone development

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Rhizoma Chuanxiong (CX) has been ranked as one of the top 20 herbs applied commonly for anti-miscarriages among Chinese pregnant women. However, CX should be used with caution during pregnancy as its property of "invigorating blood circulation and removing blood stagnation". This study aims to assess the impacts of CX aqueous extract in fetal bone development referred to the WHO, FDA and OECD guidelines. CX aqueous extract was prepared and pregnant mice were orally treated at 32 g/kg/day (CX group) from the gestation day (GD) 6 to 16, or treated with distilled water as the negative controls (NC group). All mice were sacrificed to assess maternal and fetal parameters on the GD18. The expressions of biomarkers related to the fetal bone development including PICP, ICTP, B-ALP, BGP, Gdf-5, BMPs, BMP-6, BMP-8, BMP-11 in fetal tissue samples were measured with ELISA analyses. The results showed that live fetus/litter, mean fetal BW in the CX group were significantly lower than NC group ($p < 0.05$); the resorption site/litter, post-implantation loss/litter and percentage of abnormal skeletal variation were significantly higher than NC group ($p < 0.05$); meanwhile the expressions of PICP, osteocalcin, BMPs, BMP-6, BMP-11 in the CX group were significantly lower than NC group ($p < 0.05$). It indicated that high-dosage and long-term use of CX might result in fetal bone malformations coupled with a significant down-regulation of biomarkers related to bone formation during osteogenesis.

Biography

Xu Min is an Assistant Professor in the School of Chinese Medicine, Hong Kong Baptist University. His researches including the safety assessment of Chinese medicine, the systematic review and meta-analysis of clinical trials, the study of anti-drugs, and study of metabolic bone diseases, etc.

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