

Abstract Information

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Title :	Jobelyn® ameliorates anxiety-like behaviour, thermal hyperalgesia and neuroinflammation in formaldehyde-induced arthritis in mice
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Abstract : Arthritis describes a chronic inflammatory disease characterized by joint pain, stiffness, and swelling. Anxiety and depression are common comorbidities in RA patients, which can worsen disease outcomes. Jobelyn® (JB), a polyphenol-rich extract, has been shown to possess anti-inflammatory and antioxidant properties. This study investigated the effects of Jobelyn® on anxiety-like behaviour, thermal hyperalgesia, and neuroinflammation in a mouse model of formaldehyde-induced arthritis. Swiss male mice were injected with formaldehyde (2.5%) to induce arthritis, and then treated orally with JB (50, 100, or 200 mg/kg) or vehicle for 7 days. Anxiety-like behaviour was assessed using the elevated plus maze and open field tests. Thermal hyperalgesia was evaluated using the hot plate test. Oxidative stress and pro-inflammatory cytokines were assessed in brain and paw tissues.

JB treatment significantly reduced anxiety-like behaviour in EPM and OFT, and thermal hyperalgesia in hot plate in arthritic mice. The JB decreased brain and paw tissues malondialdehyde, nitrites and increased reduced glutathione, catalase, superoxide dismutase and glutathione-s-transferase in arthritic mice. Also, JB caused significant reduction in brain TNF- α and IL-6 as well as paw TNF- α . This study demonstrates the potential of Jobelyn® to ameliorate anxiety-like behaviour, thermal hyperalgesia, and neuroinflammation in a mouse model of formaldehyde-induced arthritis. The findings suggest that Jobelyn® may be a useful adjunctive therapy for managing RA-related comorbidities.

Keywords: Jobelyn®, Arthritis, hyperalgesia, anxiety, neuroinflammation.

