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Poster Presentation

P45: The Effects of *Nigella sativa* on Sickness Behavior Induced by Lipopolysaccharide in Male Wistar Rats

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Neuroimmune factors contribute on the pathogenesis of sickness behaviors. Nigella sativa (NS) has anti-inflammatory, anti-anxiety and anti-depressive effects. In the present study, the effect of NS hydro-alcoholic extract on sickness behavior induced by lipopolysaccharide (LPS) was investigated. The rats were divided into five groups (n=10 in each): (1) control (saline), (2) LPS (1 mg/kg, administered two hours before behavioral tests), (3-5) LPS-Nigella sativa 100, 200 and 400 mg/kg (LPS-NS 100, LPS-NS 200 and LPS-NS 400, respectively). Open- field (OF), elevated plus maze (EPM) and forced swimming test (FST) were performed. In OF, LPS reduced the peripheral crossing, peripheral dis tance, total crossing and total distance compared to control ($p<0.01$- $p<0.001$). The central crossing, central distance and central time in LPS-NS 100, LPS-NS200 and LPS-NS 400 groups were higher than LPS ($p<0.01$- $p<0.001$). In EPM, LPS decreased the open arm entries, open arm time and closed arm entries while increased the closed time compared to control ($p<0.001$). Pretreatment by NS extract reversed the effects of LPS ($p<0.05$- $p<0.001$). In FST, LPS increased the immobility time while, decreased the climbing and active times compared to control ($p<0.05$- $p<0.001$). The results of the present study showed that the hydro-alcoholic extract of NS reduced the LPS-induced sickness behaviors in rats. Further investigations are required for understanding the responsible underlying mechanism(s).

Keywords: Rat, Lipopolysaccharide, Nigella Sativa, Sickness Behavior

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