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Pharmacotherapeutic potential of Hippophae rhamnoides in experimental model of post traumatic epilepsy

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Introduction: Epilepsy is the most prevalent and serious neurological disorder affecting all age groups. The proper treatment for epilepsy is still least understood and finding ways to tackle it can allow development of effective drugs. There are many studies that have indicated different parts of Hippophae rhamnoides being used as traditional therapy for diseases. The fruit and seed of this shrub contain over 190 bioactive compounds. Hence, we have hypothesized that this berry could be used as an alternative medication in the treatment of epilepsy.

Methodology: Male Wistar rats of 4-5 months age were used. FeCl₃ (5 µL/100 mM/5 min) was injected stereotaxically in the brain to induce epilepsy. The juice of Hippophae rhamnoides was orally administered at the dose of 1 ml/kg/rats for 1 month. EEG and MUA were recorded. Morris water maze test and open field test were performed to test the memory and anxiety level, respectively.

Result: Changes in EEG and MUA recording were compared statistically among different groups. We observed decreased MUA by 43.37% in treated group while increased MUA by 94.84% in epileptic group as compared to control. In MWM test, we observed increase in latency to reach platform by 66.55% in treated group and decreased by 26.96% in epileptic control. In OFT, we observed the ambulatory movement increased by 169.32% in treated group and decreased by 83.48% in epileptic group.

Conclusion: Our results suggest the possible pharmacotherapeutic potential of this juice in the treatment of epilepsy. Further, it also supports its role in memory consolidation and anxiety reduction.

Biography

Stanzin Ladol is a PhD Research Scholar. She works in the Neuroscience Laboratory in School of Life Sciences, Jawaharlal Nehru University, New Delhi. She is awarded with various national and state fellowships and has participated in numerous international and national conferences. Her domain of expertise lays in the stereotaxic surgery, animal behavioral studies, biochemical analysis, histology and basic molecular biology techniques. Her interest in epilepsy research and her enthusiasm helps to broaden her horizon in research.

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