biochemical, molecular and histological parameters were evaluated.

Results.— RIF causes a significant decreased ($P<0.05$) in the hyperalgesia and mecheno-tactile allodynia whereas administration of FST (10 and 25 mg/kg) showed a significant increase ($P<0.05$) in hyperalgesia and allodynia. RIF-induced decreased in the brain (thalamus), and spinal cord monoamines (serotonin, dopamine, and noradrenaline) levels were significantly increased ($P<0.05$) by FST (10 and 25 mg/kg) treatment. FST (10 and 25 mg/kg) also significantly attenuates ($P<0.05$) RIF-induced alteration in oxido-nitrosative stress in brain and spinal cord. FST administration also decreased RIF-induced histological aberration in the brain and spinal cord.

Conclusion.— The results of present investigation demonstrated that fisetin possessed potent neuroprotective property against RIF-induced fibromyalgia via modulation of the central monoamines and oxido-nitrosative stress. Thus, our findings may open novel landscapes in the therapeutic potential of this dietary flavonoid in CNS disorders especially fibromyalgia and neuropathic pain.

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**Individual effectiveness of neurofeedback in migraine: The role of personality and emotional state**

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Introduction.— Effectiveness of headache treatment interventions, in particular, of neurofeedback, may be influenced by psychological factors. Information regarding individual effectiveness, important for clinical practice, is usually negotiated in group studies.

Objectives.— Assess the influence of personality and emotional state on individual effectiveness of neurofeedback in migraine in a single-case study.

Methods.— A single case design cross-over sham-controlled study with blinded evaluator included 8 females aged 19–32 years with frequent migraine. The study consisted of 4 phases: pre-evaluation (≥ 2 weeks), treatment 1 (5 weeks), treatment 2 (5 weeks), post-evaluation (≥ 2 weeks). Treatment 1 and 2 included 10 infra-low frequency neurofeedback and 10 sham-neurofeedback sessions at T3T4 site in randomized order. Baseline psychological assessment included Minnesota Multiphasic Personality Inventory (MMPI), Beck's Depression Inventory, The State-Trait Anxiety Inventory.

Results.— Real, but not sham neurofeedback resulted in significant reduction of migraine attacks frequency of six participants ($P<0.03$). The rest two participants were characterized by high MMPI profile (see image) and severe depression, while no such abnormalities were detected in participants with high effectiveness of treatment. The anxiety level had no influence on therapeutic effects of neurofeedback (Fig. 1).

Conclusions.— High MMPI profile and severe depression interfere with neurofeedback effectiveness in migraine. It is worth to perform assessment of personality and depression level in migraine patients prior to treatment to prevent the inherently inefficient treatment approach.

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**Fig. 1**

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