Sympathetic Dysfunction in Patients With Chronic Low Back Pain and Failed Back Surgery Syndrome

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Background: Chronic low back pain (CLBP) is defined as pain that persists longer than 12 weeks and is often attributed to degenerative or traumatic conditions of the spine. Failed back surgery syndrome is a condition in which chronic pain persists after spinal surgery. Electrodiagnostic studies can be used to confirm the diagnosis of lumbosacral radiculopathy, but other diagnostic methods are often needed to assess sympathetic nervous system dysfunction.

Objectives: The aim of this study was to investigate the affection of sympathetic skin response (SSR) in cases of chronic low back pain (LBP) and failed back surgery syndrome (FBSS) and to assess the association of SSR abnormalities with perceived functional disability and pain among these patients.

Methodology: Twenty patients with CLBP and 10 patients with failed FBSS who fulfilled the inclusion criteria were recruited to the present study. All cases had back, leg, or back and leg pain of at least 3-month duration or following spinal surgery. The control group consists of 10 healthy participants matched in age and sex. Electrophysiologic nerve conduction studies and SSR recording were applied on the symptomatic and normal side in study cases and on both sides in the control group. Pain intensity was analyzed by the visual analogue scale (VAS) and perceived functional disability was assessed with the Oswestry disability index (ODI).

Conclusions: It was concluded that the sympathetic nervous system is affected in CLBP and FBSS patients with abnormalities in SSR and that the dysfunction of sympathetic nervous system may contribute to the intensity and chronicity of pain in these groups of patients. Moreover, a strong association was found between SSR and functional disabilities in these patients.

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The authors declare no conflict of interest.

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