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Facilitating effects of Buyang Huanwu decoction on axonal regeneration after peripheral nerve transection

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Abstract

Ethnopharmacological relevance

In traditional Asian medicine, Buyang Huanwu decoction (BYHWD) has been used for the treatment of cardiovascular and neurological disorders. Recent experimental studies have begun to provide evidence on the protective effects of BYHWD on injured peripheral nerves.

Aim of the study

To examine whether BYHWD was effective in inducing axonal regeneration after peripheral nerve transection, and if so, how it acted on the nerve.

Materials and Methods

The sciatic nerve in rats was transected and resutured 0, 1, or 4 weeks later. BYHWD was orally administered daily into the animals with nerve transection and coaptation (NTC). Axonal regeneration was measured by immunofluorescence staining of NF-200 and superior cervical ganglion 10 (SCG10) and by retrograde tracing method. Changes of protein levels in the sciatic nerve were analyzed by western blot analysis. Effects of BYHWD and its constituents on neurite outgrowth were analyzed in cultured dorsal root