

ABSTRACT

The incidence of peripheral nerve injuries is rising with greater impact on socioeconomic burden and poor quality of life of affected persons. There is no FDA approved drug for PNIs, and surgical interventions do not result in complete recovery. Herbal drugs present an easy, affordable, and safer approach to cure PNIs. *Mucuna pruriens* is medicinal plant with prior beneficial effects on various ailments. In current study, sciatic nerve crush injury on adult Swiss albino mice was used to estimate regenerative potential of aqueous and ethanolic seed extract of *Mucuna pruriens*. After nerve injury, pinprick, toe spreading motor reflex and sciatic functional index tests were used to monitor functional recovery. There was an earlier response of both sensory and motor recovery in mice treated with aqueous extract. Dissociated dorsal root ganglia (DRG) neurons were treated with aqueous extract of *Mucuna pruriens* to investigate in vitro effect on neurite outgrowth. Cultured DRG neurons treated with aqueous extract demonstrated induction of neurite outgrowth comparing to control group. Collectively, current data suggests regenerative potential of aqueous extract of *Mucuna pruriens* on primary neurons and in in vivo studies. Further studies are required to investigate the mechanism of accelerated functional recovery in *Mucuna pruriens* treatment prior to its possible clinical applications.