

Factors Associated With Poor Response to Electroacupuncture in Painful Diabetic Peripheral Neuropathy and Development of a Risk Prediction Model

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Background PDPN was one of the most common chronic complications of T2DM, and electroacupuncture therapy was reported to be effective in alleviating neuropathic pain.



Objective This study aimed to identify factors associated with a poor response to electroacupuncture in patients with PDPN and to develop a prediction model.

Methods PDPN who received electroacupuncture at Chongqing Nan’an District Hospital of Traditional Chinese Medicine between January 2023 and June 2025 were retrospectively identified(n=106). Patients with a poor treatment response were assigned to the study group(n=40), whereas those with a favorable response were assigned to the control group(n=66).

Results The mean age(57.5 ± 9.3 years vs 59.8 ± 9.0 years) did not differ significantly between the two groups($P>0.05$). The baseline NRS pain score(7.2 ± 1.1 vs 6.4 ± 1.1), MNSI score (8.1 ± 1.8 vs 7.2 ± 2.1), and the proportion of patients with good treatment compliance [30.0%(12/40) vs 59.1%(39/66)] were significantly different between the study and control groups($P<0.05$). Multivariate logistic regression analysis showed that a higher baseline NRS score [aOR=2.70 (95%CI,1.50–4.86), $P=0.01$] and MNSI score [aOR=1.35(95%CI,1.04–1.75), $P=0.02$] were independent risk factors for poor efficacy of electroacupuncture in treating PDPN, while good treatment compliance [aOR=0.25(95%CI,0.08–0.76), $P=0.02$] was an independent protective factor. The combined prediction model showed good performance [AUC=0.83(95%CI, 0.74–0.91)].

Conclusion Higher baseline pain severity and more severe neuropathy were closely associated with poor efficacy of electroacupuncture treatment for PDPN, while good treatment compliance significantly reduced the likelihood of poor treatment outcomes.

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