

Letter to the Editor

Efficacy of Immunoglobulin and Prednisolone in Diabetic Amyotrophy

To the Editor;

We wish to report that immunoglobulin and prednisolone therapy provided beneficial effects for a Japanese type II diabetic patient with amyotrophy. He was diagnosed as having type II diabetes at the age of 32. However, he only received therapy irregularly thereafter. At age 42, he was admitted to Akita University Hospital because of lower limb pain and muscle weakness. At the time of admission, the muscles of both thighs and hip were severely atrophic. In nerve conduction velocity test, he showed a decline of F-wave appearance rate in the arms and legs. Biopsy of anterior tibial muscle revealed a mild neurogenic change (small angular fiber). Immunoglobulin-M and activated complement depositions were found along the endothelium and perineurium by immunohistochemical staining. Based on these findings, this patient was regarded as having diabetic amyotrophy. Although we first treated the patient with mecobalamin

and clonazepam symptomatically, the pain in his thighs and hip never improved. Therefore, we administered immunoglobulin (0.4 g/kg body weight) to him for 5 days. After being treated for 5 days, vibratory sensation and muscle power of the lower limbs were improved (Fig. 1), but the pain was not attenuated. Therefore, subsequent to the immunoglobulin administration, we performed prednisolone administration. After prednisolone administration, the pain in his thighs and hip was markedly improved. His condition has been clinically stable under prednisolone therapy.

Diabetic amyotrophy is a complication of diabetes mellitus that occurs in 0.8% of diabetic patients [1]. The main symptoms are severe lower limb pain and muscle weakness and they are subacutely caused. Since Bruns first reported it in 1890 [2], many investigators have examined the pathogenesis of diabetic amyotrophy. Recently, Dyck and Windebank have called the disease Diabetic Lumbosacral Radiculoplexus Neuropathy (DLRPN) [3]. They have also suggested that diabetic amyotrophy is immune-mediated neuropathy due to microvasculitis of nerve root, lumbosacral plexus, and peripheral nerve. Although no controlled studies have been performed with regard to the therapy for diabetic amyotrophy so far, immunotherapy has been shown to provide beneficial effects for patients with diabetic amyotrophy by a few inves-

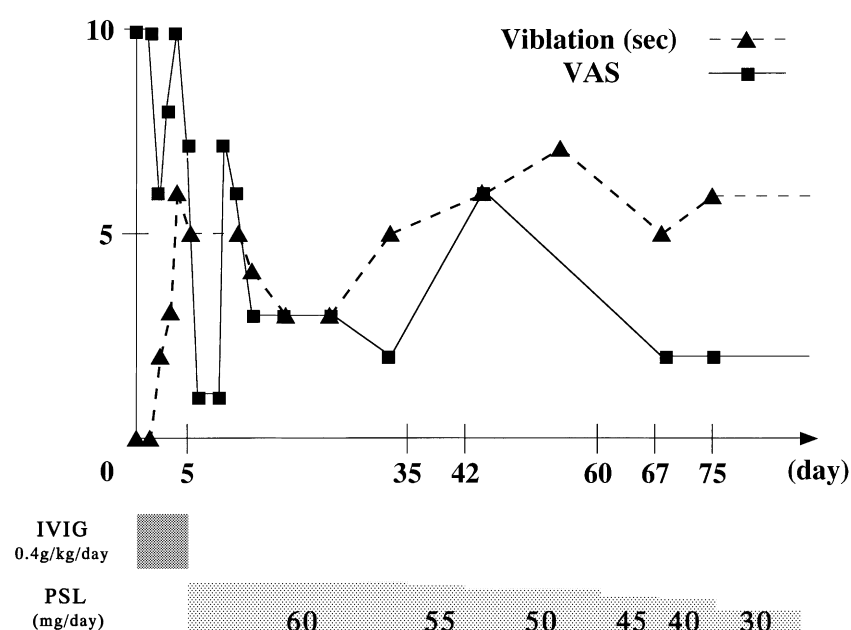


Fig. 1. Clinical course of vibration test in left lower limb and VAS after immunotherapy. VAS: visual analogue scale (0 = no pain, 10 = worst pain ever experienced), IVIG: intravenous immunoglobulin, PSL: prednisolone.

tigators in Europe and USA [4]. In Japan, only one case of diabetic amyotrophy is reported to have been successfully treated by the immunotherapy [5]. Therefore, a number of reports regarding the immunotherapy for diabetic amyotrophy need to be accumulated to confirm the efficacy of the therapy. In this case, we administered 0.4 g/kg/day of immunoglobulin for five days, because that was the standard regimen for chronic inflammatory demyelinating polyneuropathy (CIDP). Although his symptoms were not immediately improved after the immunoglobulin therapy, prednisolone administration subsequent to the therapy markedly improved his symptoms. This may be due to the intrinsic effect of prednisolone, or the additional effect of prednisolone subsequent to the immunoglobulin. There is no established regimen for diabetic amyotrophy so far, but the efficacy of immunotherapy has been reported. Through the present case, we wish to suggest the efficacy of immunotherapy for diabetic amyotrophy.

References

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