L-Carnitine Does Not Alleviate Uremic Pruritus in Hemodialysis

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Dear Sir,

Uremic pruritus (UP) is one of the most frequent and disabling symptoms in chronic renal failure afflicting up to 85% of patients on dialysis [1]. Despite two decades of clinical investigation into UP only little is known about the underlying pathogenetic mechanisms and effective therapeutic strategies are still elusive.

Hemodialysis patients exhibit disturbances of carnitine homeostasis with subnormal values of free serum carnitine and a marked relative increase of its acylesters, due to extensive losses during hemodialysis [2, 3]. This may contribute to a variety of adverse clinical symptoms in uremia [4, 5]. Therefore, we investigated whether supplementation with L-carnitine (Nefrocarnit®, Medice) could alleviate symptoms in UP. After approval by the local ethics committee and having obtained informed consent, we conducted a double-blind, randomized and placebo-controlled study where L-carnitine was applied in a dose of 10 mg/kg body weight i.v. every day the patient presented for hemodialysis (2-3 times a week). Seventeen patients (9 in the verum group and 8 in the placebo group) were treated for a period of 16 weeks. Patients were asked to complete

a diary which was designed to assess a variety of parameters including pruritus. UP was rated using a visual analog scale ranging from 0 to 6, according to increasing severity of pruritus.

Baseline recording started 4 weeks prior to initiation of therapy.

Six patients in the verum group and 6 patients in the placebo group suffered from UP. The mean pruritus score of these patients was 1.61 ± 1.2 and 1.72 ± 1.35 (mean $\pm$ SD) prior to initiation of therapy compared to 1.37 ± 1.36 and 1.74 ± 2.32 (mean $\pm$ SD) at the end of the treatment period for the verum and the placebo groups, respectively. At baseline severity of pruritus was similar in both the placebo and verum groups. Additionally, no significant difference in uremic pruritus could be found either in the treatment or in the placebo group comparing values obtained before and at the end of the study period. Although the number of patients investigated was small, the favorable design of the study allows the conclusion that short-term treatment of hemodialysis patients with L-carnitine does not improve the symptoms of uremic pruritus in a clinically relevant fashion.

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