Carbamazepine Intoxication Unresponsive to Continuous Venovenous Hemodiafiltration

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Abstracts: Carbamazepine (CBZ) intoxication can be associated with severe toxicity. Highly protein-bounded, CBZ is not removed efficiently through conventional hemodialysis. We observed that serum CBZ level was decreased minimally by albumin-enhanced CVVHDF with low dialysate flow. Therefore, albumin-enhanced CVVHDF with high dialysate flow should be considered in severe CBZ intoxication, since hemoperfusion is unavailable because of the lack of facilities or cannot be performed. Introduction: Carbamazepine is commonly used as an anticonvulsant agent. Due to the diverse availability of CBZ, the incidence of accidental and intentional poisoning is high and there is no specific antidote for CBZ intoxication. Recent studies have demonstrated that continuous venovenous hemodiafiltration and albumin-enhanced CVVHD with high dialysate flow can also be effectively used to treat severe CBZ intoxication. Case Report: A 17-year-old, 57-kg boy with depressive disorder presented with three generalized tonic clonic seizures between which there is no recovery of consciousness. He had taken 18,000 mg (60 tablets) of controlled-release CBZ (300 mg). His serum CBZ level was found to be 36 μg/mL. He could not receive multiple-dose activated charcoal because of severe ileus. We started albumin-enhanced CVVHDF 48 hours after ingestion. He remained unconscious although we treated him with albumin-enhanced CVVHDF for 20 hours. So we made the decision to convert to charcoal hemoperfusion. Serum CBZ levels were measured before and after the procedures. Reduction ratio and half-life (T½) of the serum CBZ level during albumin-enhanced CVVHDF (20 hours) were 24.2% and 41.4 hours. Reduction ratio and T½ during charcoal hemoperfusion for 3 hours were 43.7% and 3.5 hours. The patient recovered without any neurological sequelae. Discussions: It is well known that charcoal hemoperfusion is standard care in severe CBZ intoxication, charcoal hemoperfusion cannot be performed in many cases because of the lack of facilities. In case that charcoal hemoperfusion is unavailable or cannot be performed in severe CBZ intoxication, albumin-enhanced CVVHDF with high dialysate flow should be considered.

Effect of topical vitamin D on chronic kidney disease associated pruritus: An open-label pilot study

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Introduction: Chronic kidney disease-associated pruritus (CKD-aP) is a troublesome symptom in patients with end-stage renal disease (ESRD). Recently, vitamin D deficiency has been known to be one of the possible etiologic factors in CKD-aP. However, limited data is available on whether topical vitamin D treatment is effective for relieving CKD-aP. Therefore, the purpose of this study is to evaluate the effectiveness of topical vitamin D for CKD-aP. Methods: Twenty-three patients with CKD-aP were enrolled in a single center, open-label study. Patients were instructed to apply a topical vitamin D (calcipotriol) agent (Daivonex solution; LEO Pharma) or vehicle solution twice daily for a month. We assessed the efficacy and safety of topical vitamin D on CKD-aP using clinical and dermoscopic photographs, and questionnaires including the validated modified pruritus assessment score (VMPAS) and visual analog scale (VAS) every 2 weeks. Results: Dry dermoscopic findings showed significant improvement of scale (dryness) on the skin of topical vitamin D-treated patients compared with those of the vehicle group. Both VMPAS and VAS were significantly decreased after 2 and 4 weeks of the topical vitamin D treatment compared with the vehicle, respectively (p<0.05). No significant side-effects were observed. Conclusions: In our small number of pilot cases, topical vitamin D proved to have some positive effect on CKD-aP when compared with the vehicle. Topical vitamin D may be one of the safe and effective therapeutic candidates for CKD-aP.