

البحث السابع

Effect of Intravenous Calcitriol on Serum IL-6 & IL-8 in Regular Hemodialysis Patients

Mostafa Yehya¹, Ehab Hassan², Yomna Ramadan³, Hassan Eissa⁴ & Mohamed Elsayed⁴

¹Physiology Department, Faculty of Medicine, Fayoum University,

²Internal Medicine Department, Nephrology Unit, Faculty of Medicine, Fayoum University,

³Internal Medicine Department, Cairo University,

⁴Physiology Department, Cairo University

ABSTRACT

The role of vitamin D in the regulation of calcium and bone metabolism is well established. Newer physiologic functions for vitamin D have been identified. Vitamin D plays a vital and complex role in immune system function and regulation. The aim of this study was to measure the effect of intravenous calcitriol treatment on the immune system in chronic regular haemodialysis patients through the study of the serum levels of IL-6 and IL-8 and to study its effect on the serum level of total calcium, ionized calcium, phosphorus, alkaline phosphatase and intact parathyroid hormone. Methods: This study was conducted on 45 subjects randomized into three groups. 15 healthy control subjects (Group I), 15 end stage renal disease patients on chronic hemodialysis not receiving calcitriol (Group II) and 15 end stage renal disease patients on chronic hemodialysis receiving calcitriol (Group III). Serum levels of markers of mineral metabolism(total calcium, ionized calcium, phosphorus, intact PTH (iPTH), alkaline phosphatase (ALP)), complete blood count (CBC) with differential, serum cytokine levels (interleukin-6 (IL-6) and interleukin 8 (IL-8)) were collected at the beginning of the study and 1 and 3 months thereafter. Results: Calcitriol treatment effectively suppresses iPTH, significantly increases the serum total calcium, ionized calcium and serum phosphorus levels, and decreases the serum ALP levels. Calcitriol treatment causes statistically significant decrease in the serum level of the inflammatory cytokines (IL-6 and IL-8). It was concluded that haemodialysis patients with secondary hyperparathyroidism should be treated with intravenous calcitriol not only due to its role in the regulation of calcium and bone metabolism, but also due to its vital and complex role in immune system function and regulation.

KEY WORDS:

Calcitriol, IL-6, IL-8, chronic kidney disease.

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