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## Cross linked polyelectrolyte and its function in facilitating the intestinal dialysis process

**Behzad Abedi, Hamid Tayebi Khosroshahi, Javid Bamdad and Yaghoob Ghasemi**

Tabriz University of Medical Sciences, Iran

One of the most important issues in patients with chronic kidney disease (CKD) is fluid retention and volume overload accompanied by retention of nitrogenous waste products and some electrolytes. Intestinal fluids in a uremic patient daily contain 2.9 g of creatinine, 70 g of urea, 2.5 g of uric acid and large amount of water, which make it a potential candidate for intestinal excretion of nitrogen wastes products, electrolytes and excess fluids. Cross-linked polyelectrolyte (CLP) is a polymer that, given orally, absorbs excess fluid, electrolyte, and nitrogenous waste products in the gastrointestinal tract with eventual elimination in the feces. The aim of the present study was to evaluate the safety and efficiency of CLP administration in adsorption and removal of excess fluid, electrolytes, and nitrogenous waste products in CKD patients. We predict that this technique could be used as a potential adjuvant for conventional dialysis modalities. In an experimental study on 30 hemodialysis patients, the effect of CLP on adsorption of fluid, urea, creatinine, uric acid, sodium, and potassium were evaluated. It has been shown that, up to 80% of excess fluid water can be adsorbed by CLP. In addition, there were significant reductions in urea, creatinine, uric acid, and sodium levels ( $P < 0.001$ ). In summary, this study introduces a paradigm for using CLP to remove the body excess products from the intestinal tract in patients with volume and waste product overload.

behzad.abedi1993@gmail.com