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Ghrelin as a biomarker for nutritional and inflammatory status in patients on maintenance hemodialysis

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Malnutrition is associated with morbidity and mortality in patients on maintenance hemodialysis (MHD). Increased levels of circulating proinflammatory cytokines has been recognized as an important factor for anorexia and malnutrition in these patients. Ghrelin, an orexigenic peptide hormone is speculated to be associated with nutritional and inflammatory status in MHD. A cross sectional study was conducted in 90 patients (56 males, 34 females, mean age 52.6 ± 11.7 years) on maintenance hemodialysis from a single dialysis unit and 45 health volunteers as control (29 males, 16 females, mean age 50.6 ± 9.7 years) to correlate the serum levels of total ghrelin with the inflammatory cytokines serum TNF- α and high sensitive C- reactive protein (hsCRP) and with the nutritional status based on serum albumin, hemoglobin, anthropometry (Body mass index, triceps skinfold thickness, mid arm circumference, mid arm muscle circumference and lean body mass) and Subjective Global Assessment -Dialysis Malnutrition Score (SGA-DMS). Data were showed by mean \pm SD, probability values <0.05 were considered statistically significant. Based on the SGA-DMS and anthropometry 38% were found to be well nourished, 36% moderately malnourished and 26% severely malnourished. Ghrelin, TNF- α and hsCRP levels were significantly elevated in MHD patients and highly elevated in malnourished patients when compared to the control ($p=0.001$). Ghrelin had a positive correlation with dialysis vintage, BUN, serum creatinine, TNF- α , hsCRP and negative correlation with eGFR and the nutritional status. The study establishes the role of total ghrelin in the nutritional and inflammatory status of the patients on maintenance hemodialysis.

Biography

Vanitha Rani N is a Lecturer in the Department of Pharmacy Practice, Faculty of Pharmacy, Sri Ramachandra University. She has a master degree in MPharm (Pharmacy Practice) and is currently pursuing her PhD in part time at the same University. She has around 10 years of teaching experience and also is incharge of Drugs and Poisons Information Center of the department. She has around 25 national and International publications in peer reviewed journals and has guided 10 post graduate dissertations.

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