

World Congress on

Nutrition and Obesity Prevention Source

November 16-18, 2017, Barcelona, Spain

The Evaluation of Malnutrition in Hemodialysis Patients

Feray Gencer and Hilal Yıldırım

Gazi University, Faculty of Health Science, Department of Nutrition and Dietetics, Ankara, Turkey

Malnutrition is described as inadequate, excessive or unbalanced energy and nutrient intake of people. Hemodialysis patients are at risk for malnutrition due to catabolic effects caused by dialysis, loss of amino acids, inadequate nutrient intake, acidosis and inflammation (1). Protein energy malnutrition (PEM) and malnutrition inflammation atherosclerosis (MIA) syndrome can be seen in hemodialysis patients. The main difference between the two types that inflammation also accompanies MIA (2, 3). Malnutrition is one of the causes of mortality and morbidity in this group of patients receiving dialysis treatment, so this situation is very important to identify and evaluate it. This assessment mainly includes assessment of nutrient intake, anthropometric measurements, body composition, biochemical parameters and functional tests (1). Nutrient intake can be assessed by using the patient's food intake recording or by frequency of nutrient consumption. From anthropometric measurements, assessment of body weight, body mass index, skin fold thicknesses and upper middle arm circumference are of importance. Body composition measurements give more detailed information about the patient's muscle and fat distribution. Bioelectrical impedance analysis and dual energy x-ray absorptiometry are the basic methods that can be used for body composition analysis. Among biochemical parameters, evaluation of serum electrolytes and serum proteins is of great importance. Functional tests such as handgrip are also other methods that can be used (4, 5, 6). Malnutrition Inflammation Score is a specific determinant of this group of patients in addition to Subjective Global Assessment in hemodialysis patients (7, 8). In addition to the malnutrition status, these scales, which help to evaluate in patient inflammation, are currently assessing serum albumin, total iron binding capacity and body mass index in addition to weight change, dietary intake, gastrointestinal symptoms, functional capacity, disease and nutritional requirements (8). There is no single test or method for determining the malnutrition status. Patients should be monitored by doctors, dietitians and nurses with multiple parameters and repeated measures. Clinical and nutritional interventions in malnourished and at-risk patients should be done as early as possible.

References

1. NKF/KDOQI Guidelines. 2005. Malnutrition. https://www2.kidney.org/professionals/kdoqi/guidelines_cvd/malnutrition.htm
2. Stenvinkel P, Heimbürger O, Lindholm B, Kaysen GA, Bergström J. 2000. Are there two types of malnutrition in chronic renal failure? Evidence for relationships between malnutrition, inflammation and atherosclerosis (MIA syndrome). *Nephrol Dial Transplant*. 15(7):953-60.
3. Kalantar-Zadeh, K et al. 2003. Malnutrition-inflammation complex syndrome in dialysis patients: causes and consequences. *American Journal of Kidney Diseases* 42(5): 864-881.
4. Kuhlmann MK, Kribben A, Wittwer M and Hörl WH. 2007. OPTA—malnutrition in chronic renal failure. *Nephrology Dialysis Transplantation* 22(3): 13-19.
5. Chung S, Koh ES, Shin SJ and Park CW. 2012. Malnutrition in patients with chronic kidney disease. *Open Journal of Internal Medicine* 2(2): 89.
6. Fouque D, Kalantar-Zadeh K, Kopple J., Cano N, Chauveau P, Cuppari L and Lindholm B. 2008. A proposed nomenclature and diagnostic criteria for protein-energy wasting in acute and chronic kidney disease. *Kidney International* 73(4): 391-398.
7. De Mutsert R, Grootendorst DC, Boeschoten EW, Brandts H, van Manen J G and Krediet RT. 2009. Subjective global assessment of nutritional status is strongly associated with mortality in chronic dialysis patients. *The American Journal of Clinical Nutrition* 89(3):787-793.