10th International Conference on
Food Science & Technology
February 07, 2022 | Webinar

Malnutrition, Body Mass Index and N-terminal pro-Brain Natriuretic Peptide in hemodialysis patients

Ducros J
University Hospital, France

Uremic malnutrition also called protein energy wasting (PEW), is a common problem in patients with end stage renal disease undergoing hemodialysis (HD). This syndrome has been associated with, morbidity and mortality. Association between malnutrition and N-terminal pro-brain natriuretic peptide (NT-proBNP), a predictive factor of cardiac events and mortality has been reported. In addition, inverse relationships between body mass index (BMI) and circulating levels of NT-proBNP have been demonstrated.

We evaluated the association between NT-proBNP, BMI and malnutrition in a sample of Afro-Caribbean HD patients. Malnutrition was identified according to the International (ISRMN) definition and one component in each of the 4 categories of the wasting syndrome were retained: serum albumin ≤ 38 g/L, BMI ≤ 23 Kg/m2, creatininemia ≤ 818 µmol/L/m2 and nPCR≤ 0.8 g/kg/day. NT-ProBNP was assessed using a chimiluminescence immunoassay, at the start of dialysis. In 207 patients (mean age: 64 years +/-13), NT-ProBNP ranged from 125 to 33 144 pg/ mL.

The major comorbidities were hypertension (90%), diabetes (41.5%), obesity (26.5%) and PEW (at least three components) was found in 16.9%. Log NT-ProBNP was negatively correlated with BMI (r = - 0.19, P = 0.005) and also with left ventricular ejection fraction.

Patients with high NT-ProBNP levels (≥ 6243 pg/mL) had higher frequencies of malnutrition (≥3 factors) (34.6 % vs 11.0 % in those with NT-ProBNP levels < 6243 pg/mL; P < 0.001), including BMI ≤ 23 Kg/m2 (55.8 % vs 29.0 %; P < 0.001) and mean BMI was 23.8 ± 5.2 vs 26.9 ± 6.9 Kg/m2 ; P = 0.004.

In HD patients, several parameters could be involved in the association between NT-proBNP and malnutrition, including inflammation and inadequate protein and caloric intake, that could lead to low BMI. NT-proBNP levels must draw attention to cardiac function but also to nutritional status.

e: ducrosjacques@hotmail.fr