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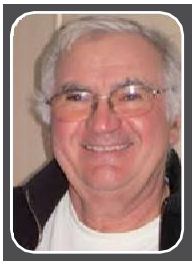

Malnutrition, Body Mass Index and N-terminal pro-Brain natriuretic peptide in hemo-dialysis patients

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Abstract

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.

Biography

Ducros J is a nephrologist doctor who has a long professional experience in Marseille (France) and who contributes to the realization of studies in collaboration with a research team from the University Hospital of Guadeloupe (France). He has over 40 publications.

Publication

1. NT-proBNP, Cardiometabolic Risk Factors, and Nutritional Status in Hemodialysis Patients Jacques Ducros Centre de Dialyse AUDRA, Hôpital RICOU, Pointe-à-Pitre, Guadeloupe, France Laurent Larifla Service de Cardiologie, Centre Hospitalier Universitaire, Guadeloupe, France
2. N-terminal Pro-B-Type Natriuretic Peptide and Malnutrition in Patients on Hemodialysis Jacques Ducros Centre de Dialyse AUDRA, Hôpital RICOU, Pointe-à-Pitre, Guadeloupe, France
3. Impact of protein energy wasting status on survival among Afro-Caribbean hemodialysis patients: a 3-year prospective study Jacques Ducros Centre de dialyse AUDRA, Hôpital RICOU, Pointe-À-Pitre, Guadeloupe, France

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