Nutritional risk screening in patients hospitalized for stationary cardiac rehabilitation

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Objectives: Poor nutritional status is related with additional underperformance of several organ systems including cardiovascular system. In this manner patients are prone to treatment inefficiency/failure, health related hazards and complications, affecting quality of life^{1,2}. Inpatients in general are among highest risk groups for malnutrition. Our aim was to perform nutritional risk screen in patients hospitalized for stationary cardiac rehabilitation.

Patients and Methods: Nutritional screening was performed using NRS-2002 on 190 Caucasian patients, 155 male (81.58%) and 35 female (18.42%) in age range 32-84 years. There were 80 patients (42.11%) with recent open heart surgery (20 valvular surgery and 60 coronary bypass revascularizations), 97 (51.05%) percutaneous coronary interventions (PCI) for acute coronary syndrome (ACS), and 13 (6.84%) had conservative ACS treatment. There were 28 (14.89%) patients with body mass index (BMI) <25. 97 patients (51.6%) with BMI 25<30 and 63 patients (33.51%) with BMI 30. High risk waist-circumference was found in 102/151 (67.55%) of male patients (>100 cm) and 24/34 (70.51%) of female (>88 cm).

Results: Average NRS-2002 score was 3.69 points and average patient lost 6.87kg (range 0-14) i.e. 8.11% (0-19%) weight loss prior to hospitalization for the study. NRS-2002 risk showed to be significantly related to a type of treatment and age of patients ($p<0.001$). Only 39 patients (20.53%) had normal or low NRS-2002 risk (3). A great deal of patients, $n=151$ (79.47%) had high nutritional risk with scores over 3 points. Additionally 70 of them had very high

grade of NRS-2002 score with values 5. Interestingly, significant differences were noted in patients with very high nutritional risk in relation to the age ($p<0.001$), Tiffeneau index ($p=0.006$), electrocardiography heart rate ($p=0.017$), red blood cell count ($p<0.001$) and platelet count ($p<0.001$), blood glucose concentrations ($p<0.001$), uric acid ($p=0.002$), creatinine ($p=0.001$) and total cholesterol ($p=0.044$).

Conclusions: Nutritional status of patients enrolled in stationary cardiac rehabilitation was estimated to be of high risk, disease-related and treatment related. We failed to find a relationship between nutritional status and traditional cardiovascular risk factors, particularly the BMI or waist circumferences. Based on our preliminary results, the nutritional risk screen should be strongly advised in patients with valvular and ischemic heart disease, particularly in the post-operative course³.

KEYWORDS: nutritional risk screening, ischemic heart disease, valvular heart disease, cardiovascular rehabilitation.

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