Evaluation of basic nutritional parameters in older adults treated with percutaneous coronary intervention

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Background: Aging patients are characterized by their variability in terms of biological status and outcomes after invasive procedures. Recently, concepts of comorbidity, frailty, and nutrition have been incorporated into clinical decision-making. Of these, nutrition is the least studied component.

Purpose: To analyze the prevalence and impact of different baseline nutritional disorders on the clinical course in the first year after PCI.

Methods: We conducted a prospective observational study of consecutive patients aged ≥75 years treated by PCI in a tertiary hospital between 2014 and 2017. We evaluated the patients with baseline information on the nutritional parameters of the validated Controlling Nutritional Status (CONUT) score variables: serum albumin, total cholesterol and lymphocyte count. We analyze the prevalence of nutritional disorders, CONUT values (ranging from 0–12, with higher values indicating more severe malnutrition), and their relationship with the 12-months cumulative events rates.

Results: The study population comprised 209 patients (mean age 82±5 years, 40% women). The averaged laboratory values were as follows: serum albumin 3.8±0.5 g/dL, total cholesterol 141±35 mg/dL, lymphocytes 1723±913 per mL, CONUT score 2.8±2.2 points. The table shows the prevalence of each nutritional disorder, and its impact on the incidence of ischemic or hemorrhagic events. Hypoalbuminemia was significantly associated with bleeding and mortality. Notably, low cholesterol was associated with a higher incidence of vascular events in this population, and low LDLc levels did not have a protective effect.

Conclusions: The analysis of simple nutritional parameters is relevant in the prognostic prediction after PCI in the older adult. In particular, hypoalbuminemia and low cholesterol levels were associated with a higher incidence of adverse events. Future studies should assess the role of dietary strategies and supplements in this context.

	Prevalence, n (%)	CVD, MI or stroke, HR (95% CI)	BARC 3 or 5 major bleeding, HR (95% CI)	All-cause death, HR (95% CI)
Albumin <3.5 g/dL	39 (23)	1.9 (0.6-5.8)	3.0 (1.2-7.7)	3.6 (1.4-9.7)
Total Cholesterol <140 mg/dL	107 (55)	5.4 (1.2-24.2)	1.8 (0.7-4.5)	0.9 (0.4-2.2)
Lymphocytes <1200 U/mL	24 (28)	1.3 (0.2-6.9)	3.3 (0.7-14.7)	0.7 (0.2-2.4)
CONUT >4 points	11 (16)	2.6 (0.5-14.5)	2.7 (0.5-14.8)	2.1 (0.6-8.3)

HR and 95% CI estimated by Cox proportional hazards model. CVD, cardiovascular death; MI, myocardial infarction; BARC, Bleeding Academic Research Consortium.

Nutrition disorders and clinical events