Impact of albumin on the incidence of adverse events following percutaneous coronary interventions in older adults

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Background: Recent studies have focused on comorbidities or frailty as predictors of adverse events in older adults undergoing percutaneous coronary interventions (PCI), however the prognostic impact of nutritional parameters has been less extensively studied.

Purpose: Our objective was to analyze the impact of serum albumin on the incidence of adverse events after PCI in older patients.

Methods: We conducted a prospective observational study of all-corner consecutive patients aged ≥75 years submitted for PCI at our institution from 2014 to 2017, and with available pre-procedural serum albumin levels. We analyzed the distribution of albumin levels in such population, and the impact of hypoalbuminemia (albumin <3.5 g / dL) on 12-months cumulative incidence of MACE (cardiovascular death, myocardial infarction or stroke), BARC types 3 or 5 major bleeding, and all-cause death.

Results: Study population comprised 169 patients (mean age 82±5 years, 38% women). Mean albumin level was 3.8±0.5 g/dL, and 23% showed levels <3.5 g/dL. Hypoalbuminemia was associated with only mild impairments in baseline cardiac or renal function. During the 12-month follow-up, albumin levels were not associated with a higher incidence of MACE (log-rank p=0.22) but they were associated with a higher incidence of bleeding (22.4% vs. 8.0%, p=0.014), and with all-cause mortality (20.5% vs. 6.2%, p=0.006). Albumin revealed an independent and greater impact than bleeding scores, anemia or discharge anticoagulation on the prediction of bleeding (adjusted HR 2,88, p=0.028).

Conclusions: Albumin levels confer relevant prognostic information that should be assessed in older adults receiving PCI. The effect on bleeding is independent of other well-established variables. Systematic quantification of this widely available parameter may be helpful for clinical decision-making.
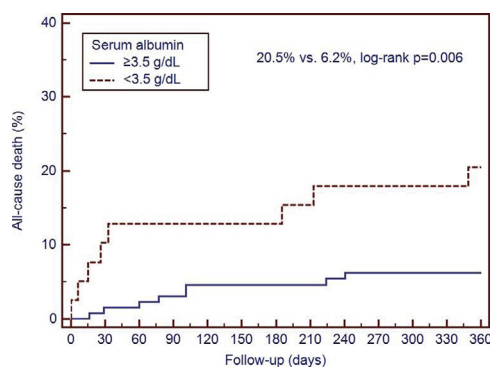
Figure 1. Hypoalbuminemia and all-cause death