

Anemia and outcome of patients undergoing lower extremity endovascular intervention

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Background/Aims: The prevalence and effect of anemia on clinical outcomes as a risk factor among patients with lower extremity artery disease (LEAD) who treated with intravascular intervention had not been evaluated well. We analyzed the prevalence of anemia and its effects on the prognosis among patients undergoing intravascular procedures.

Methods: Between Jan. 2015 and Dec. 2016, a total of 112 consecutive patients underwent lower extremity intravascular angiography. Among them, 9 patients were excluded; 2 patients were recommended for bypass surgery, 3 patients were treated by percutaneous transluminal angioplasty (PTA) with embolectomy using Fogarty catheter, 1 patient was 15 years old and from trauma, and 3 patients failed to successful PTA. We analyzed retrospectively 103 patients with LEAD who underwent successful lower extremity intravascular intervention (claudication, n=58; critical limb ischemia n=45). anemia was defined as a condition of hemoglobin <13 g/dl in men and < 12 g/dl in women, according to the WHO criteria. All-cause mortality and major adverse cardiac and cerebrovascular event (MACCE) rate were compared between the patients with anemia and those without anemia. MACCE included any of the following adverse events: cardiac death, cerebrovascular death, acute myocardial infarction, stroke, and congestive heart failure.

Results: Of the 103 patients, 63 patients (61.2%) had anemia (hemoglobin <13 g/dl in men and < 12 g/dl in women). Independent predictors of anemia were diabetes mellitus (Odd ratio (OR) = 2.82, P = 0.030) and body mass index (OR = 0.80, P = 0.004). During the median follow-up period of 2.6 years, in patients with anemia compared to those without anemia, MACCE rate was similar (14.3% vs. 12.5%, P=0.797), however, all-cause mortality had significantly high (15.9% vs. 2.5%, P=0.032) presence of anemia in patients undergoing lower extremity intravascular intervention was an independent predictor of all-cause mortality (Hazard ratio(HR) = 1.5, P = 0.024)

Conclusions: Anemia is an important risk factor for patients undergoing lower extremity intravascular intervention, especially in old age, lower body mass index, and critical limb ischemia patients.

