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Background: Chronic kidney disease (CKD) and anemia were both thought to be independent predictors of adverse clinical events after percutaneous coronary intervention (PCI). However, its impact on long-term outcomes in the drug-eluting stent era has not been clarified. We examined whether the comorbidity of CKD and anemia in patients undergoing sirolimus-eluting stent (SES) implantation was associated with long-term adverse events. **Methods:** A total of 448 patients treated with SES were classified into 4 groups according to the presence of CKD (estimated glomerular filtration rate <60 ml/min) and anemia (serum hemoglobin \leq 12g/dl in women, \leq 13 in men). Major adverse cardiovascular and cerebral events (MACCE) were investigated during an average follow-up of 41 ± 13 months. **Results:** The incidence of MACCE was significantly higher in patients with both CKD and anemia. Multivariable analysis revealed that a combination of CKD and anemia was an independent predictor of MACCE (HR 3.66, $p=0.0007$). **Conclusion:** When CKD is in association with anemia, the long-term MACCE rate after PCI is synergistically increased even if treated with SES.

