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Dual Antiplatelet Therapy and Clinical Outcomes after Coronary Drug-Eluting Stent Implantation in Patients on Hemodialysis

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Abstract

Background and objectives We aimed to investigate the benefits and risks of dual antiplatelet therapy (DAPT) after coronary drug-eluting stent (DES) implantation in patients undergoing hemodialysis.

Design, setting, participants, & measurements A nested case-control analysis of patients on hemodialysis after receipt of DES and DAPT treatment was conducted using data from Taiwan's National Health Insurance Research Database for the period 2007–2011. Cases of myocardial infarction or death within 1 year after DES implantation were matched one-to-one with control patients. Odds ratios were calculated to compare DAPT continuation with discontinuation. Additionally, a propensity score-adjusted 6-month landmark cohort analysis was also conducted to evaluate the long-term benefits and risks of prolonged (>6 months) compared with ≤6 months of DAPT use. The primary outcomes were death and myocardial infarction. The secondary outcomes were ischemic stroke, revascularization, and major bleeding.

Results In the nested case-control analysis, patients who continued DAPT had a lower rate of death or myocardial infarction within 1 year after receipt of a DES (adjusted odds ratio, 0.54; 95% confidence interval, 0.36 to 0.81; $P=0.003$), whereas this association became statistically nonsignificant when compared with patients who discontinued DAPT for the period between 6 and 12 months after receipt of a DES (adjusted odds ratio, 1.51; 95% confidence interval, 0.75 to 3.04). In the propensity score-adjusted cohort analysis, >6 months of DAPT use was not associated with different primary or secondary outcomes than shorter-term use.

Conclusions Our findings support that the clinical effectiveness of extended DAPT in a hemodialysis population may be tempered after 6 months post-DES implantation.

hemodialysis coronary artery disease Epidemiology and outcomes
Cohort Studies Drug-Eluting Stents Hemorrhage Humans
Myocardial Infarction National Health Programs Odds Ratio
Propensity Score renal dialysis Risk Assessment Stroke Taiwan
Treatment Outcome 2'-deoxythymidyl-(3'-5')-2'-deoxyadenosine

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