

**BMJ (British Medical Journal)**

**Duration of dual antiplatelet therapy after  
percutaneous coronary intervention with  
drug-eluting stent**

Systematic review and network meta-analysis

Shang-He-Lin Yin, Peng Xu, Bian Wang, Yao Lu, Qiao-Yu Wu, Meng-Li Zhou, Jun-Ru Wu, Jing-Jing Cai, Xin Sun, Hong Yuan

2019 Jun 28; 365:l2222

DOI: [10.1136/bmj.l2222](https://doi.org/10.1136/bmj.l2222)

# Abstract

## Objective:

To evaluate the efficacy and safety of standard term (12 months) or long term (>12 months) dual antiplatelet therapy (DAPT) versus short term (<6 months) DAPT after percutaneous coronary intervention (PCI) with drug-eluting stent (DES).

## Design:

Systematic review and network meta-analysis.

## Data sources:

Relevant studies published between June 1983 and April 2018 from Medline, Embase, Cochrane Library for clinical trials, PubMed, Web of Science, ClinicalTrials.gov, and Clinicaltrialsregister.eu.

## Review methods:

Randomized controlled trials comparing two of the three durations of DAPT (short term, standard term, and long term) after PCI with DES were included. The primary study outcomes were cardiac or non-cardiac

death, all-cause mortality, myocardial infarction, stent thrombosis, and all bleeding events.

## Results:

17 studies (n=46 864) were included. Compared with short term DAPT, network meta-analysis showed that long term DAPT resulted in higher rates of major bleeding (odds ratio 1.78, 95% confidence interval 1.27 to 2.49) and non-cardiac death (1.63, 1.03 to 2.59); standard term DAPT was associated with higher rates of any bleeding (1.39, 1.01 to 1.92). No noticeable difference was observed in other primary endpoints. The sensitivity analysis revealed that the risks of non-cardiac death and bleeding were further increased for  $\geq 18$  months of DAPT compared with short term or standard term DAPT. In the subgroup analysis, long term DAPT led to higher all-cause mortality than short term DAPT in patients implanted with newer-generation DES (1.99, 1.04 to 3.81); short term DAPT presented similar efficacy and safety to standard term DAPT with acute coronary syndrome (ACS) presentation and newer-generation DES placement. The heterogeneity of pooled trials was low, providing more confidence in the interpretation of results.

## Conclusions:

In patients with all clinical presentations, compared with short term DAPT (clopidogrel), long term DAPT led to higher rates of major bleeding and non-cardiac death, and standard term DAPT was associated with an increased risk of any bleeding. For patients with ACS, short term DAPT presented similar efficacy and safety with standard term DAPT. For patients implanted with newer-generation DES, long term DAPT resulted in more all-cause mortality than short term DAPT. Although the optimal duration of DAPT should take personal ischemic and bleeding risks into account, this study suggested short term DAPT could be considered for most patients after PCI with DES, combining evidence from both direct and indirect comparisons.

**BMJ**

*Meta-Analysis*

2019 Jun 28; 365:l2222.

Doi: 10.1136/bmj.l2222.

PMID: 31253632

PMCID: PMC6595429 DOI: 10.1136/bmj.l2222