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The effect of coronary drug-eluting Stents on mortality: a systematic review and meta-analysis of randomized controlled trials

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Li, YX; Zhang, C; Pan, JB; Sun, XL.

Corresponding author:

Li yangxin

1119257678@qq.com

Author Affiliation:

Clinical medicine.

ADMINISTRATIVE INFORMATION

Support - fund.

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 May 2024 and was last updated on 20 May 2024.

INTRODUCTION

Review question / Objective The objective of this study is to conduct a systematic evaluation and meta-analysis of existing evidence to compare the effects of kinds of drug-eluting stents (DES) and bare metal stents (BMS) on mortality in patients with coronary artery disease.

Condition being studied Patients with coronary artery disease.

METHODS

Search strategy The search terms employed include a range of keywords such as "drug-eluting stents", "bare metal stents", "BMS", "DES", "SES", "Sirolimus eluting stents", "Zotarolimus eluting stents", "Everolimus eluting stents", "ZES", "EES", "Zotarolimus", "Everolimus", "eluting stent".

Participant or population Patients with coronary artery disease.

Intervention Drug-eluting stents.

Comparator Bare metal stents.

Study designs to be included This study included in clinical randomized controlled trials of coronary stent implantation in patients with CAD.

Eligibility criteria (1) randomized controlled trials related to coronary artery disease; (2) Published in English and limited to human subjects; (3) Comparing BMS with SES or ZES, EES; (4) The subjects were followed up for at least 6 months; (5) The primary end point was death, and the secondary end point was major adverse cardiac event (MACE). The exclusion criteria included the following: (1) data were obtained from repeated or secondary treatment and (2) no regular postoperative follow-up.

Information sources PubMed, EMBASE and Cochrane.

Main outcome(s) The primary end point was death, and the secondary end point was major adverse cardiac event (MACE).

Quality assessment / Risk of bias analysis The quality of qualified articles was assessed using the following methodological criteria recommended by the Cochrane Collaboration: sequence generation, allocation concealment, blind method, incomplete result data, selective result reporting, and other sources of bias.

Strategy of data synthesis All statistical analyses were conducted using Review Manager 5.1 (Cochrane Center, Denmark).

Subgroup analysis In this meta-analysis, we wonder whether follow-up time, patient gender, smoking, diabetes or hypertension had any effect on the results.

Sensitivity analysis The heterogeneity between smoking ($i^2=65\%$) and hypertension ($i^2=71\%$) is relatively high. The analysis of smoking and hypertension may be linked to the mortality of patients.

Language restriction No.

Country(ies) involved China.

Keywords Coronary artery disease, sirolimus-eluting stents, mortality.

Contributions of each author

Author 1 - Li yangxin.

Author 2 - Zhang, C.

Author 3 - Pan, JB.

Author 4 - Sun, XL.