

INPLASY

Effects of early mobilization on patients after coronary artery bypass grafting: a Meta-analysis

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ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - Data analysis.

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 18 October 2024 and was last updated on 18 October 2024.

INTRODUCTION

Review question / Objective To evaluate the effect of early mobilization on patients after coronary artery bypass grafting by Meta-analysis.

P: patients after coronary artery bypass grafting

I: early mobilization

C: Routine nursing measures

O: Early ambulation has a positive effect on patients after CABG, which can effectively reduce the incidence of postoperative complications, reduce the length of hospital stay, improve exercise capacity and cardiac function, so as to promote cardiac rehabilitation, providing evidence-based basis for clinical research.

S: Meta-analysis.

Condition being studied Coronary artery bypass grafting is effective in reducing the risk of death

from coronary heart disease. The number of CABG surgeries in China is increasing by 10% per year. The American Heart Association (AHA) cardiac consensus recommends that passive and/or active limb movement should be initiated while patients are bedrid after CABG. However, there are barriers to implementing early mobilization on a large scale and making it part of the standard of care for patients after CABG. Existing studies are not clear about the best activity mode, duration and frequency of patients after CABG. There are differences in intervention effects, and the implementation standards of activities are not uniform. At present, there is a lack of systematic research and analysis on the effect of early activities in patients after CABG. Therefore, this study used evidence-based methods to conduct a meta-analysis of relevant randomized controlled trials published at home and abroad, in order to provide reliable evidence-based basis for clinical nursing practice.

METHODS

Participant or population Age ≥ 18 years old; patients after coronary artery bypass grafting; The postoperative condition was stable without other serious complications.

Intervention Early mobilization.

Comparator Routine nursing measures.

Study designs to be included Randomized controlled trial (RCT).

Eligibility criteria Inclusion Criteria: Age ≥ 18 years old; patients after coronary artery bypass grafting; The postoperative condition was stable without other serious complications;

Exclusion criteria: patients with other types of cardiac surgery or combined with other cardiac surgery; The intervention measures were early activities combined with other intervention measures.

Information sources PubMed、EMbase、The Cochrane Library、Web of science、中国学术期刊全文数据库 (CNKI)、中国生物医学文献数据库 (CBM)、维普数据库 (VIP)、万方数据库 (Wanfang data)

中文检索词包括: 冠状动脉旁路移植/冠脉旁路移植/冠状动脉旁路移植术/冠脉旁路移植术/冠状动脉搭桥/冠脉搭桥/冠状动脉搭桥术/冠脉搭桥术, 早期活动/身体活动/体力活动/离床活动/早期运动/运动训练。

英文检索词包括: coronary artery bypass/coronary artery bypass surgery/coronary artery bypass grafting/aortocoronary bypass/coronary artery grafting/CABG, early mobilization/early activity/physical mobilization/mobili*/physical activity/out-of bed mobilization/early exercise/exercise training.

Main outcome(s) Postoperative complications; length of hospital stay; 6-minute walk test (6MWT); left ventricular ejection fraction (LVEF)/ejection fraction (EF); Incidence of cardiac adverse events.

Quality assessment / Risk of bias analysis Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0.

Strategy of data synthesis Review Manager 5.4 was used for meta-analysis. relative risk (RR) and 95% confidence interval (95%CI) were used for binary data, and mean difference (MD) or weighted mean difference (WMD) was used for continuous

variables. Heterogeneity was determined by χ^2 test combined with I^2 . If $P > 0.1$ and $I^2 < 50\%$, there was no significant statistical heterogeneity among the studies, the fixed effect model was used for Meta-analysis. If $P \leq 0.1$ and $I^2 \geq 50\%$ indicated large heterogeneity, the random-effects model was used for meta-analysis. If the source of heterogeneity could not be determined, descriptive analysis was used. Sensitivity analysis was performed according to the characteristics of the data. $P < 0.05$ was considered statistically significant.

Subgroup analysis None.

Sensitivity analysis The sensitivity analysis was performed after excluding the studies with the outcome indicators of postoperative complications, length of hospital stay, incidence of cardiovascular events, cardiac function assessment and exercise capacity.

Country(ies) involved China.

Keywords Coronary artery bypass grafting; CABG; Early mobility; Cardiac rehabilitation; Meta-analysis.

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