



9. CRITICAL DECISIONS IN CORONARY INTERVENTIONS: BYPASS VS. STENT - A DETAILED ANALYSIS

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Introduction. In the context of cardiovascular interventions, coronary artery bypass grafting (CABG) and coronary stenting represent distinct approaches to address coronary artery disease and the choice between them represents a pivotal decision that significantly impacts patient outcomes. CABG involves the surgical rerouting of blood flow around blocked coronary arteries using grafts, typically harvested from the patient's own vessels. On the other hand, coronary stenting is a percutaneous procedure where a stent, a small metal mesh tube, is inserted to prop open narrowed arteries, restoring blood flow.

Aim of study. The research was conducted on Web of Science using the keywords "coronary stent," "CABG," "coronary bypass" and "percutaneous coronary intervention."

Methods and materials. Scientific papers were selected based on inclusion criteria, which involved patient groups treated with both CABG and coronary stent, hospitalization period, in-hospital mortality, bleeding events, stroke, postoperative delirium, the well-being of patients and procedure effectiveness. Articles mentioning patients with major comorbidities, NSTEMI, angina pectoris and any other cardiac surgical intervention ongoing during the same period of hospitalization were excluded. Risk of bias was not assessed, and PRISMA criteria were used for data synthesis. Out of the total of 16 articles found, 6 studies with 5 between 2005 and 2007, and the sixth conducted in 2018 were selected.

Results. The cohort comprised 12038 patients, with 2215 treated using CABG and 9823 through percutaneous coronary intervention. The patient group treated with CABG had a hospitalization period of 13.04+- 9.26 days, while the group treated with PCI had a hospitalization period of 5.71 +- 7.60 days. In the CABG-treated patient group, 52 out of 2215 (2.34%) patients died, while in the PCI-treated group, 251 out of 9823 (2.55%) patients succumbed. In the CABG-treated group of 2,215 patients, 30 experienced a stroke (1.35%), compared to 45 strokes among the 9,823 patients treated with stents (0.45%).

Conclusion. In conclusion, the comparative analysis of Coronary Artery Bypass Grafting (CABG) and Percutaneous Coronary Intervention (PCI) suggests nuanced considerations. Both interventions demonstrate similar mortality rates. The decision between these procedures should be meticulously tailored to individual patient characteristics, considering factors like lesion complexity, and long-term outcomes. A comprehensive evaluation, weighing the advantages and disadvantages of CABG versus PCI, remains crucial in optimizing cardiovascular care."