Minimally Invasive Direct Coronary Artery Bypass Is Associated With Superior Survival In Multivessel Disease: A Network Meta-Analysis

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INTRODUCTION

- **ONCAB**
- **OPCAB**
- **MIDCAB**
- **HCR**
- **PCI**

⟶ Which is better in terms of for **survival**?

METHODS

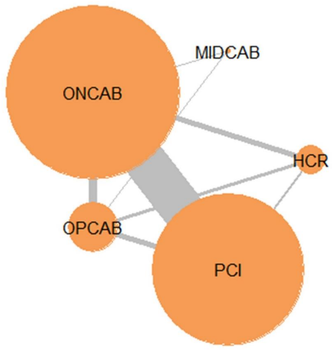
Observational studies and **randomized controlled trials (RCTs)** were searched in:

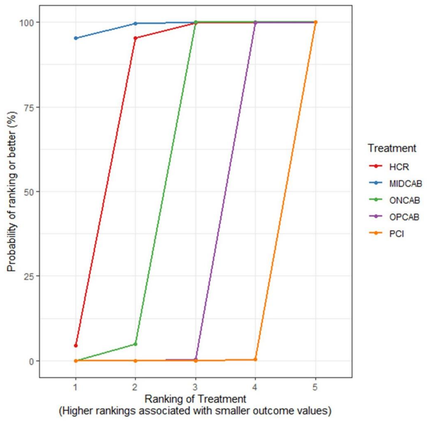
- PubMed / MEDLINE
- Embase
- Cochrane Controlled Trials Register (CENTRAL/CCTR)
- Reference lists of relevant articles

Data collected:

→ **Mortality** at **long-term follow-up** (>12 months).

→ **Bayesian network meta-analysis**.





Treatment

Comparator	MIDCAB	HCR	ONCAB	OPCAB	PCI
MIDCAB		1.45 (0.95, 2.34)	**1.70** (1.16, 2.66)	**1.89** (1.28, 2.96)	**1.99** (1.35, 3.13)
HCR	0.69 (0.43, 1.06)		1.17 (0.97, 1.41)	**1.30** (1.08, 1.57)	**1.37** (1.14, 1.65)
ONCAB	**0.59** (0.38, 0.87)	0.85 (0.71, 1.03)		**1.11** (1.08, 1.14)	**1.17** (1.14, 1.20)
OPCAB	**0.53** (0.34, 0.78)	**0.77** (0.64, 0.93)	**0.90** (0.87, 0.93)		**1.05** (1.02, 1.09)
PCI	**0.50** (0.32, 0.74)	**0.73** (0.60, 0.88)	**0.85** (0.84, 0.87)	**0.95** (0.92, 0.98)	

RESULTS

- **123 studies**
- **231,929 patients** (ONCAB: 117,516 patients; OPCAB: 15,040 patients; MIDCAB: 262; PCI: 96,951 patients; HCR: 120 patients)

MIDCAB was associated with a **significant reduction in mortality** of 41% compared to ONCAB, 47% compared to OPCAB, and 50% compared to PCI.

MIDCAB had the **highest probability of being ranked first with regard to long-term survival**, while HCR was most likely to be ranked as the second most effective strategy.

CONCLUSION

- **MIDCAB seems to be superior in terms of improved overall long-term survival and might thus be a promising strategy for the treatment of multivessel disease.**

→ RCTs are needed.

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