CABG is more beneficial for survival. Because patients with diabetes have more diffuse coronary disease with a 2-fold higher rate of total occlusions and a tendency towards more distal disease [5], however, revascularization is often more challenging in patients with diabetes and consequently may be less complete (Supplementary material, Reference [E5]). Independent predictors of incomplete-revascularization CABG in the SYNTAX [Synergy between PCI with TAXUS and Cardiac Surgery] trial [6] were unstable angina, diffuse disease or small vessels and the number of lesions, but not diabetes. On the basis of results of the BARI [Bypass Angioplasty Revascularization Investigation] trial (Supplementary material, Reference [E4]), the concept of 'reasonable' incomplete-revascularization CABG of the circumflex or right coronary artery territory (Supplementary material, Reference [E1]) has been advocated [7–9]. In the present meta-analysis, however, even including these studies (Supplementary material, Reference [E1, E4]) showed a benefit of complete- over incomplete-revascularization CABG with regard to survival. To reduce the effect of treatment-selection bias and potential confounding, we strictly abstracted (then combined in a meta-analysis) adjusted (but not unadjusted) risk estimates from observational studies. However, potential biases are likely to be greater for observational studies compared with randomized trials; so results should always be interpreted with caution when they are included in reviews and meta-analyses [10].

SUPPLEMENTARY MATERIAL

Supplementary material is available at ICVTS online.

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REFERENCES


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References


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In the study undertaken by Takagi et al., the authors discuss the importance of completeness of surgical revascularization for long-term prognosis [1]. Fourteen observational studies involving over 30 000 patients were included in their meta-analysis, demonstrating the superiority of complete versus incomplete revascularization. Primarily, we would like to mention a number of factors that determine the completeness of revascularization. It is technically impossible to perform complete revascularization, which may be related to the severity and the diffuse nature of coronary artery lesions, as well as to the method of myocardial revascularization [2]. It is well known that revascularization primarily affects quality of life, and that only in some clinical situations is improved prognosis observed among patients with chronic ischaemic heart disease after myocardial revascularization, such as in those with stenosis of the left main coronary artery, with three-vessel coronary artery disease, in combination with the presence of reversible ischaemic myocardial dysfunction. The present work has drawn attention to the necessity of considering the issue of the completeness of revascularization, as it affects the long-term prognosis. Frequently, there is a dilemma in choosing the method of revascularization, and preference is often given to a less invasive treatment which does not provide a more favourable long-term outcome.

We must return to a discussion of the relationship between completeness of revascularization and the severity of coronary lesions. What are diffuse, widespread coronary lesions often associated with? They are typically observed in elderly patients with more risk factors for atherosclerosis and related diseases, in women in connection with smaller coronary arteries and other features, and with multifocal atherosclerosis, diabetes, etc. The presence of such factors when performing surgical revascularization worsens the prognostic characteristics and longer term results. The prognosis for these patients is determined by the consequences of incomplete revascularization in the setting of adverse prognostic conditions and diseases. Besides, the surgeon doesn’t choose to perform either a complete or incomplete revascularization; only the objective complications of achieving it limit its completeness. There is often the question of “full” or “adequate” revascularization [3]. In this situation, when we use the term “adequate revascularization”, it is due to the limited technical opportunities. Thus, it should be noted that the completeness or incompleteness of revascularization is not connected with the surgeon’s intentions. Based on the results of this meta-analysis, we want to emphasize the need to perform surgical myocardial revascularization on patients with multiple coronary disease when the technical possibilities are present, and in the absence of contraindications.

Depending on the surgeon’s experience and training of the surgical team, we can speak about the performance of different variants of coronary bypass surgery, so as to achieve optimal long-term outcome with both on-pump and off-pump techniques [4].

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