Commentary

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In the past there were many papers criticizing worse graft patency, incomplete revascularization and no clinical benefits in off-pump compared to on-pump CABG. How and when should we or may we perform off-pump coronary artery grafting? From surgical point of view the answer seems to be very simple. If we have to operate a patient whom we can't make full revascularization, we shouldn't perform OPCAB. However there are some exceptions. In some patients we can't revascularizate one or more coronary arteries in both off- and on-pump technique. In such cases a safer procedure should be chosen. Sometimes surgeon is obliged to choose the lesser of two evils – what is most important in a particular case: a complete revascularization in on-pump CABG or less traumatic OPCAB operation . This question should be taken into account especially in high risk patients. According to Puscas and coauthors off-pump coronary artery bypass grafting is associated with lower operative mortality than coronary artery bypass grafting on CPB for higher risk patients [1]. Recently some other studies have demonstrate that the off-pump technique allows to operate the patients with less numbers of complications and good results in long-term observation. The five year follow-up in MASS III trial has shown that although OPCAB surgery was related to a lower number of grafts and higher episodes of atrial fibrillation, it had no significant implications related to long-term outcomes [2]. The analysis of 30000 patients included in California CABG Outcomes Reporting Program has shown that OPCAB operation is associated with a significantly lower postoperative stroke rate compared with CABG even for older and higher risk patients However, intraoperative OPCAB to CPB conversion was associated with the highest postoperative stroke rate [3]. This last remark is crucial in daily clinical practice - what should be done to avoid conversions to CPB because of hemodynamic instability during off-pump operation? To avoid this complication many surgical moneuvres have been adapted by trial and error – deep pericardial stich, table rotation, pleuropericardial window, inotropic infusion and others. All cardiac surgeons who perform off-pump coronary artery bypass grafting have faith in the effectiveness of this moneuvres. However in medicine the faith is not enough. In one of his songs Leonard Cohen has sung – "Your faith was strong but you needed proof". In the very interesting paper done by Zbigniew Juraszyński and all we can find this proof. The authors demonstrate that Trendelenburg positioning and tilting of the table towards the operator together with the creation of a pleuropericardial window resulted in an improvement of hemodynamic conditions when the posterior cardiac wall was exposed. The validity of this paper is confirmed by the precise statistical analysis of many hemodynamic parameters. However we still need the answer to the question – in which patients additional procedures like pleuropericardial window are necessary? There is no reason to use this method in all of the patients especially as opening a pleural cavity is not indifferent for patients. Pleura opening and need of chest tube insertion induced significant reduction in static lung compliance and increase in total respiratory system resistance [4]. All we belief the pleuropericardial window helps us to operate in off-pump technique the patients with impaired left ventricle function or the patients with hard accessible coronary arteries, but without a shadow of a doubt the most precise identification of this group is necessary.

References

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