



ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Cardiology

ESPS manuscript NO: 30728

Title: Bilateral vs unilateral internal mammary revascularization in patients with left ventricular dysfunction

Reviewer's code: 03067964

Reviewer's country: Sweden

Science editor: Fang-Fang Ji

Date sent for review: 2016-10-17 14:31

Date reviewed: 2016-10-31 17:33

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input type="checkbox"/> Rejection
<input checked="" type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input type="checkbox"/> Plagiarism	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		[Y] No	<input type="checkbox"/> Major revision
		BPG Search:	
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		[Y] No	

COMMENTS TO AUTHORS

This manuscript presents a statistical evaluation of the survival of bilateral internal mammary artery grafts in a historic cohort of 430 patients. The authors conclude that grafting can be performed "with acceptable perioperative mortality". I have a few methodological comments. 1. It is stated in the beginning of the manuscript that the study presents a "real-world observation". What other worlds would be possible to study? 2. Continuous variables are, according to the statistics section, "compared using Student's t tests or Wilcoxon tests". Formally, these statistical tests are used to test hypotheses about the properties of the population that is represented by the studied sample of patients. 3. The survival of the two studied groups is studied using Cox regression. This method is based on an underlying assumption of proportional hazards. Has the fulfillment of this assumption been evaluated? How was this evaluation performed? Was the assumption fulfilled? 4. The statements in the statistics section that "A conditional backward stepwise Cox proportional hazards model was used to assess the independent prognostic significance of procedure type. Age, sex, risk factors, previous history, clinical presentation and left ventricular ejection fraction were used as



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covariates" and "Propensity matching was used to provide a more valid comparison between the groups" are problematic, because confounded effects cannot be considered independent, and cause-effect relations between variables need to be considered when developing statistical models for confounding adjustment, see e.g. Shrier I, Platt RW. Reducing bias through directed acyclic graphs. *BMC Med Res Methodol* 2008;8:70, which invalidates data-driven procedures as stepwise regression analysis. The same goes for propensity score matching, see Sjölander A. Propensity scores and M-structures. *Stat Med* 2009;28:1416–1420. Reducing the level of ambition and adjusting the survival outcome for the imbalance of a few specific risk factors, such as age and sex, may be a better alternative. 5. The results presentation is unclear regarding what has been observed in the sample of studied patients and what has been inferred about the population represented by the studied sample, e.g. "In-hospital mortality was not different between the two groups (7.8% vs 10.3%, $p=0.49$)". This needs to be corrected throughout the manuscript. 6. The results presentation is also ambiguous regarding statistical significance (inferential uncertainty) and clinical significance (practical relevance), for example in the sentence "The follow up was not long enough to establish a significant difference between the two surgical strategies". Again, this needs to be clarified throughout the manuscript, and please note that just referring to statistical significance is inadequate, see Wasserstein RL, Lazar NA. The ASA's statement on p-values: context, process, and purpose. *The American Statistician* 2016 doi: 10.1080/00031305.2016.1154108. The practical relevance of the findings needs to be considered with due considerations for estimation uncertainty. A results presentation including 95% confidence intervals would facilitate this.

ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Cardiology

ESPS manuscript NO: 30728

Title: Bilateral vs unilateral internal mammary revascularization in patients with left ventricular dysfunction

Reviewer's code: 02794723

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Science editor: Fang-Fang Ji

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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input checked="" type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input checked="" type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		BPG Search:	<input checked="" type="checkbox"/> Major revision
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input checked="" type="checkbox"/> No	

COMMENTS TO AUTHORS

The manuscript is well written and addresses interesting and important facts regarding the revascularisation in left ventricular dysfunction. It uses data of 430 patients with reduced EF and a follow up period of 6.2 years. As this is an important study i would like to make some comments: 1) In the patient characteristis (table 1) there is a significance in age, hypercholesterinaemia, pAVK in the unmatched group and not different in the score matched group. Here it needs more discussion in the manuscript. 2) In table 2 there is a significance of ventilation time, vasopressor use and transfusion. Can you explain this fact in the manuscript ? 3) As this is a high risc cohort some data regarding ICD-implantation in the follow-up period wpuld be useful 5) As drug treatment of heart failure is very important for mortality data is needed regarding the drug treatment in both groups (betablockers, ARBs, spironolactone, antiarrhythmics) 4) Figure 1: This figure is a little confusing, as matched and not-matched cohort are presented in one figure. Here only the use of the data of the machted cohort would more strengthen the message of the manuscript and the significance of the data in the not machtech cohort needs to be more specific discussed



ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Cardiology

ESPS manuscript NO: 30728

Title: Bilateral vs unilateral internal mammary revascularization in patients with left ventricular dysfunction

Reviewer's code: 02446694

Reviewer's country: Japan

Science editor: Fang-Fang Ji

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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input type="checkbox"/> Plagiarism	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		<input type="checkbox"/> No	<input type="checkbox"/> Major revision
		BPG Search:	
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input type="checkbox"/> No	

COMMENTS TO AUTHORS

The authors investigated the short-term and long-term prognosis in patients with left ventricular dysfunction, who underwent coronary bypass graft using bilateral internal mammary artery (IMA) or using unilateral IMA plus saphenous vein graft. Kaplan-Meier estimated survival analysis showed that long-term event free rate was better in bilateral IMA group, however, the propensity score matching analysis showed that there were no differences in long-term survival and event-free survival in the two groups. They concluded that bilateral IMA was acceptable procedure in patients with left ventricular dysfunction. This study showed the pure results regarding coronary bypass grafting in the real world, and seems to be interesting. As a reviewer, I have some questions and requests. #1 As the authors commented in the "Limitation" section, there seems to be the patients selection bias. Nevertheless, the authors should show the method of patient selection in the "Method" section. In addition, the authors had better mention that the selection of IMA differed annually. #2 The medications after CABG is an important treatment. The authors had better showed the contents of medication after CABG, at least, at the discharge. #3 I have experienced the patients whose



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bypass was occluded in the early phase after CABG. If the authors confirmed the patency of bypass before the discharge, they had better show such data.