

ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Cardiology

ESPS manuscript NO: 29645

Title: Determinants of percutaneous coronary intervention success in repeat chronic total occlusion procedures following an initial failed attempt

Reviewer's code: 00161889

Reviewer's country: Italy

Science editor: Jin-Xin Kong

Date sent for review: 2016-08-25 16:04

Date reviewed: 2016-09-07 03:09

| 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 checked="" 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"/> Duplicate publication | |
| <input type="checkbox"/> Grade D: Fair | <input type="checkbox"/> Grade C: A great deal of language polishing | <input type="checkbox"/> Plagiarism | <input type="checkbox"/> Rejection |
| <input type="checkbox"/> Grade E: Poor | | <input checked="" type="checkbox"/> No | <input checked="" type="checkbox"/> Minor revision |
| | <input type="checkbox"/> Grade D: Rejected | BPG Search: | <input 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

Cuevas and colleagues report the observational results of 58 patients who underwent repeated PCI following failure of a first attempted PCI for native vessel single CTO, in their institution through a 4-year period. A total of 64 additional procedures were performed in these patients (4 pts 2 repeated PCI and 1 pt 3 repeated PCI). Further CTO-PCI failure was reported in 18 patients (23 procedures). The study outcomes were factors that may affect procedural success such as g fluoroscopy time, stiffer polymer coated CTO guide-wires, ad-hoc PCIs. Data of repeated PCI included change of strategy, IVUS guidance and experience of the operator. Post-procedural data included evidence of peri-procedural MI, in-hospital renal dysfunction and in-hospital death. Operator experience was identified using the EuroCTO club definition. Lesion complexity was classified using the Japanese-CTO score. Bayesian inference for logistic regression analysis was used to identify independent factors associated with successful CTO-PCI. The main finding was that repeated CTO-PCI after failure was associated with a good success rate in this cohort (64.1% of success rate). The main factors associated with PCI success in these patients were a combination of an IVUS guided

procedure with an experienced operator. These benefits were more pronounced in complex lesions (J-CTO \geq 3). Limited in numbers, this study is indeed a single center experience. Yet, CTO remains the most technically challenging lesions to revascularise percutaneously. Most importantly failed CTO-PCI has been associated with an increased risk of death, angina and impaired quality of life as compared with successful revascularization. In this cohort there were no major events such as in-hospital death or in-hospital renal dysfunction and the rate of periprocedural MI was very low and comparable between groups (1 event for each group). This study has value as it emphasizes the need for pre-procedural evaluation of lesion complexity and therefore complex lesions must be faced by experienced operators through an IVUS guided CTO-PCI approach. Comments: 1. Methods, pp5, para 2: definition of CTO needs a reference (e.g. Circulation 2005; 112:2364) 2. Limitations: the authors may wish to review their limitations and state that harsh endpoints (death, renal impairment, MI) were obtained in-hospital; therefore long term outcomes of these patients require confirmation in prospective larger scale investigation. 3. Correct the typo in the flow chart (23 pts with unsuccessful procedure instead of 13)

ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Cardiology

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Title: Determinants of percutaneous coronary intervention success in repeat chronic total occlusion procedures following an initial failed attempt

Reviewer's code: 01277682

Reviewer's country: Japan

Science editor: Jin-Xin Kong

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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 checked="" type="checkbox"/> Minor revision |
| <input type="checkbox"/> Grade E: Poor | | BPG Search: | <input 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 authors attempted to investigate the rates and determinants of success of repeat PCI following an initial failed attempt at recanalising the CTO percutaneously. This topic is very actual and clinically relevant. There are some comments and suggestions that the authors may want to address. 1) The authors defined the experienced operator as an operator with a success rate of at least 80% in CTO PCI. However, they did not define regular operator and non-experienced operator. Please define them in detail. 2) This reviewer thinks that retrograde approach substantially increases the overall success rate of CTO revascularization. However, retrograde approach was performed only 14.1%. Why not performed more retrograde approach for re-PCI CTO?