

Results: An 8 variable scoring system was constructed as follows age above 60years old 1 point, delayed reperfusion time more than 4hrs 2 points, large luminal diameter ≥ 2.8 mm 2 points, long target lesion ≥ 20 mm 4 points, high thrombus burden 1 point, initial TIMI flow ≤ 1 is 3 points, positive Ck-Mb on admission 2 points and elevated D-dimer ≥ 500 ng/ml 1 point, with final total score = 16 points. A ROC analysis was performed for the scored patients showing that all patients scoring 10 points or more are most likely to have no reflow phenomenon, test sensitivity was 86% and specificity was 73%, $P < 0.001$. Score validation revealed a sensitivity, specificity, accuracy, positive predictive value and negative predictive value of 80%, 92%, 86%, 89% and 85% respectively, in detecting no reflow during primary PCI in patients presented by acute STEMI.

Conclusion: The current study suggested a weighted scoring system, to predict the development of no-reflow phenomenon during primary percutaneous coronary intervention in patients with acute myocardial infarction

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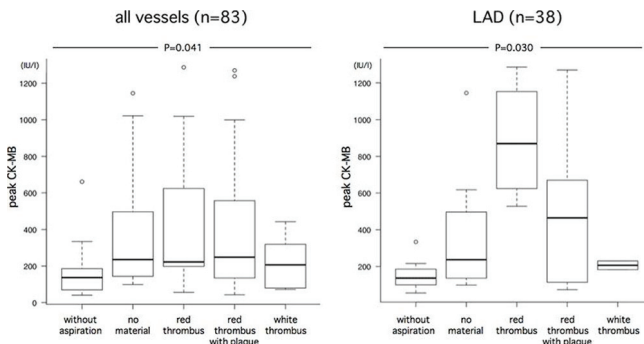
Clinical implication of the differences of aspirated materials by thrombectomy in STEMI patients

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Background: In thrombectomy procedures, various materials are aspirated: white thrombus, red thrombus, or plaque. However, whether those aspirated material differences have clinical implication has not been well elucidated.

Methods: We retrospectively enrolled consecutive STEMI patients who underwent emergent PCI. All aspirated materials were screened macroscopically, and when those were seemed red thrombus or plaque, additional microscopic inspection was done to examine those components. Depending on the thrombectomy status and characteristics of the aspirated materials, patients were divided into five groups: without aspiration group, no aspirated material group, white thrombus group, red thrombus group, and red thrombus with plaque group. Primary endpoint was peak CK-MB.

Results: 83 patients were registered in this study: 13 were in without aspiration group, 16 were in no-aspirated material group, 10 were in white thrombus group, 16 were in red thrombus group, and 28 were in red thrombus with plaque group. There were significant differences in peak CK-MB between the five groups (median were 136, 236, 207, 223, 248, respectively, $P = 0.041$, Kruskal-Wallis test). This tendency was seen more clearly in LAD lesion (medians were 136, 237, 207, 870, 465, respectively, $P = 0.030$, Kruskal-Wallis test).



Conclusion: In STEMI patients, aspirated red thrombus was associated with higher peak CK-MB, but aspirated red thrombus accompanied with plaque may imply smaller myocardial damage.

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Solitaire stentriever for extraction of organised thrombus in acute coronary syndrome

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Aims: A high thrombus burden is associated with increased risk of no re-flow, lower intra-procedural success and increased in-hospital complications including myocardial infarction (MI) and death. The persistent thrombus can be difficult to treat despite techniques currently used today including thrombus aspiration. We describe the use of the Solitaire thrombus retrieval device in a series of 6 cases presenting with acute coronary syndrome with recalcitrant thrombus despite attempts at thrombus extraction by conventional methods.

Methods and results: The stentriever was used in six patients treated at our institution in 2017 for acute myocardial infarction who had persistent thrombus despite treatment by conventional methods with thrombus aspiration and intracoronary eptifibatid. Use of the Solitaire device was associated with an impressive reduction of thrombus grade in all native vessels along with improvement in TIMI flow.

Conclusions: The Solitaire thrombus retrieval system proved a useful adjunctive



Solitaire with extracted thrombus

tool for thrombectomy and facilitated success of the PCI procedure in this small cohort of patients with high burden of persistent thrombus.

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Outcomes of PCI with bioresorbable vascular scaffolds in patients with acute coronary syndrome

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Background: Everolimus-eluting bioresorbable vascular scaffolds (BVS) have been introduced in the last years as a novel promising technology. The recent register studies and randomized controlled trials demonstrate the lack of benefits of BVS over the last-generation drug-eluting stents for stable coronary artery disease treatment. The current long-term data on the use of BVS in acute coronary syndromes (ACS) are limited.

Purpose: To assess the technical feasibility, efficacy and safety of PCI with implantation of bioresorbable vascular scaffolds in acute coronary syndromes at short-term and long-term periods.

Methods: The prospective single-center registry was initiated to evaluate feasibility and performance of everolimus-eluting bioresorbable vascular scaffolds in ACS setting. From 1 October 2013 to 31 December 2016 a total of 412 ACS patients underwent PCI with BVS implantation. 55.3% of patients presented with ST-elevation ACS. The primary end points of the study were the device success defined as BVS implantation in the culprit lesion without intraprocedural complications and the rate of major adverse cardiac events (MACE) defined as all-cause death, myocardial infarction, repeat target vessel revascularization at 30 days and at a median 25 [17; 30] months of follow-up.

Results: Multi-vessel PCI with BVS was performed in 68 (16.5%) patients. 87 (21.1%) of patients received multiple adjacent implantations of scaffolds. 23.3% of PCI with BVS were IVUS/OCT-guided. All patients had successful scaffold implantation. The MACE rate at 30 days was 0%. At a median 25 [17; 30] months of follow-up there were 5 (1.2%) deaths, 2 (0.5%) Q-wave myocardial infarctions and 5 (1.2%) repeat target vessel revascularizations. There were 2 (0.5%) cases of late scaffold thrombosis. We found no significant difference in MACE rate between ST-elevation and non-ST-elevation ACS (HR: 1.63; 95% CI: 0.458–5.816; $p = 0.45$). The overall rate of major adverse cardiac events at follow-up was 2.4%.

Conclusion: PCI with bioresorbable vascular scaffolds in acute coronary syndrome is technically feasible and safe with favorable short-term and long-term outcomes.

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Complete revascularisation in STEMI patients with multi-vessel disease: inpatient versus outpatient staged revascularisation results in similar clinical outcomes

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Background: About 50% of patients presenting with STEMI undergoing primary PCI have multivessel coronary artery disease which is associated with poorer outcomes compared to single vessel disease. Improved prognosis has been shown in randomized controlled trials when bystander disease is treated at time of the primary PCI compared to culprit only treatment. Whilst there is general consensus on the above; currently neither guidelines nor evidence exist regarding the optimal time for complete revascularisation (inpatients or outpatients staged).

Purpose: The aim of the study is to compare clinical outcomes in STEMI patients with multi-vessel coronary artery disease who underwent complete revascularisation as inpatients respect to patients who had staged PCI within six weeks.

Methods: This was an observational cohort study of 497 patients with multi-vessel disease who underwent primary PCI from 2012 to 2017. Patients with previous CABG and cardiogenic shock were excluded. Patients were divided into 2 groups according to whether they underwent complete inpatient or outpatient staged PCI. The primary outcome was major adverse cardiac events (all cause mortality, myocardial infarction, target vessel revascularisation). 317 (68.76%) patients underwent complete inpatient revascularisation and 144 patients (31.23%) had outpatient PCI (at a mean of 53 days post discharge). Of the IP complete