

complication, since the beginning of the training program is fundamental for reducing the fluoroscopy time.

CRT-200.26

Trends in Utilization of Thrombus Aspiration in Primary Percutaneous Coronary Intervention During ST Elevation Myocardial Infarction



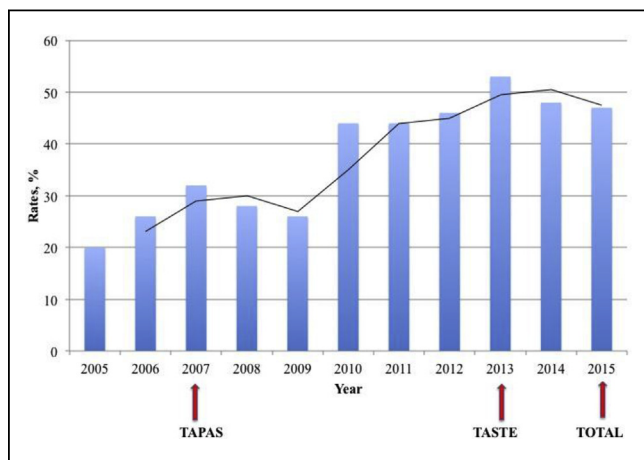
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BACKGROUND Studies of thrombus aspiration (TA) during primary percutaneous coronary intervention (PPCI) in ST elevation myocardial infarction (STEMI) patients have showed conflicting results. However, currently routine use of TA is not advised according to the guidelines. We aimed to evaluate trends of TA utilization among STEMI patients.

METHODS STEMI patients undergoing primary PCI at our center from 2005 to 2015 were included in the current analysis. TA was used at the discretion of the operators and evaluation of the rates of utilization was performed at each year.

RESULTS Among 3,631 STEMI patients, TA was used in 1,375 (38%). The patients in the TA groups were younger (60±13 vs. 64±13, p<0.001), more likely to male (71% vs. 64%, p<0.001), Caucasian (53% vs 57%, p=0.02) and smokers (43% vs. 36%, p<0.001), and less likely to suffer from comorbidities such as hypertension, diabetes, renal insufficiency and prior coronary artery disease. In addition patients with TA were more likely to have intra-aortic balloon pump (27% vs. 17%, p<0.001). Initial TIMI flow 0-1 was more common in the TA group (73% vs. 34%, p<0.001). The utilization of TA has grown from 20% in 2005 to a peak of 54% in 2013 after which it was reduced to 48% in 2015.

CONCLUSIONS TA is widely used among STEMI patients despite evidence of lack of benefit with routine use. Further research is needed to evaluate specific populations in which TA is beneficial.



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Compliance and Bleeding Using Updated AHA/ACC Heparin Dosing Guidelines for NSTEMI Patients



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BACKGROUND In 2015 the AHA/ACC recommended new heparin dosing guidelines for Non-ST elevation myocardial infarction (NSTEMI) patients to decrease the maximum initial bolus from 7500 units to 4000, and the initial infusion rate from 1500 u/hr to 1000. We implemented those guidelines, and as part of the National

Cardiovascular Data Registry (NCDR) quality assurance process, compliance and the rates of bleeding were recorded. We analyzed the data to report the rates of compliance with the new recommendations, and determine if the lower heparin doses were associated with a decrease in bleeding events.

METHODS The study was conducted in a 546 bed tertiary care center. NCDR defines bleeding events as any of the following within 72 hours of starting heparin: 1) Hemoglobin (Hgb) drop ≥3 g/dl; 2) Transfusion of red blood cells with Hgb > 8g/dl; 3) Procedural site intervention to address bleeding.

RESULTS In 2014, 62% (78/125) received a heparin bolus >4000 units vs. 22% (23/105) in 2015. The relative risk (RR) of receiving a bolus >4000 units in 2014 vs. 2015 was 2.8 (95% CI [1.9,4.2]). The average drop in Hgb was similar: -1.9 +/- 1.6 in 2014 vs. -1.9 +/- 1.7 in 2015. The NCDR bleeding rate in 2014 (2.5%) was not significantly different from 2015 (5%), (Wilcoxon Rank-sum p=0.2). With the higher allowable heparin doses in 2014 the risk of a Hgb drop ≥3 g/dl for the entire admission was not higher than in 2015 (RR 1.05, 95% CI [0.6,1.9]).

CONCLUSION AND PLAN Implementation of the new recommendations was associated with 40% a decline in excessive heparin dosing for NSTEMI patients at our institution, but the rate of NCDR defined bleeding did not change significantly. The stable bleeding rate could be explained by the presence of confounders that were not recorded as part of the nursing quality assurance process, possibly a threshold effect in that the risk of bleeding in these patients does not directly correlate with the degree of PTT elevation, or an effect size too small to be detected by 230 patients. We are now conducting a detailed chart review to describe the demographics of all NSTEMI patients to compare those with an NCDR bleeding event and to patients who had a Hgb drop ≥3 during hospitalization but did not meet NCDR criteria.

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Clinical Outcomes of Atherectomy Prior to Percutaneous Coronary Intervention in Obese Patients (COAP-BMI Study)



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PURPOSE Atherectomy is an important tool for lesion preparation in patients with coronary artery calcification undergoing percutaneous coronary intervention (PCI). There is limited data on outcomes of atherectomy in obese patients. There have been no studies that compare the outcomes of orbital atherectomy (OA) and rotational atherectomy (RA) in obese patients. We sought to examine the safety of atherectomy in obese patients with coronary artery calcification (CAC).

METHODS This prospective, observational, multicenter study compared OA and RA in obese patients with CAC. 35,590 patients from 5 tertiary care hospitals who had PCI between January 2011 to April 2016 were identified. All patients with BMI ≥ 30, who had OA or RA prior to PCI were included in our analysis (n=222).

RESULTS 91 patients were included in the OA arm and 131 patients in the RA arm (Table 1a). Patients undergoing OA were significantly younger than those undergoing rotational atherectomy. Procedural data is presented in Table 1b. The primary endpoint, death on discharge occurred in no patients in the OA, and 4 of the 131 patients in the RA group (0% vs. 3.05%, p=0.004). The composite of major adverse cardiac events (MACE) on discharge occurred significantly less in patients undergoing OA (15.4% vs. 16.3%, p=0.007). The rate of secondary outcomes for myocardial infarction and stroke were similar between groups as were individual procedural safety endpoints including dissection, perforation, tamponade, or heart failure (Table 1c). Bleeding complications managed with transfusion occurred less frequently with OA (2.2 % vs. 6.87 %, p=0.01).

CONCLUSIONS In this first study comparing atherectomy in obese patients, OA was associated with significantly improved survival on discharge compared with RA with decreased MACE and bleeding complications requiring transfusion. Thus, OA is safer and as effective in obese patients with CAC. This study demonstrates that OA may be the preferred atherectomy in this high risk patient subset.

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