

The potential over-utilization of PCI and stents has accordingly emerged as an important issue. As the FAME Trial demonstrated, use of Fractional Flow Reserve (FFR) reduces the number of stents by eliminating unnecessary interventions on lesions that are not physiologically significant. The purpose of this proposed study was to determine the incidence of FFR in a nationally represented population from 2005-2013 and its relative usage to diagnostic cardiac catheterization and PCI.

METHODS The 5% Medicare data was used to determine the incidence of Medicare patients who underwent PCI stenting procedures, diagnostic cardiac catheterization, and FFR between 2005 to 2013, calculated as the number of procedures per 100,000 Medicare enrollees. The relative FFR utilization rates were calculated based on the number of patients undergoing FFR divided by the number of patients undergoing diagnostic catheterization each year.

RESULTS The average incidence of FFR utilization was calculated to be 54 procedures per 100,000 Medicare enrollees. Although low, the incidence of FFR utilization rate increased from 18.9 in 2005 to 118 in 2013. Approximately, 55% of FFR procedures were conducted in men aged 65-74. Geographically, FFR procedures were conducted primarily in the South (38%) and Midwest (28%). The average incidence of catheterization and PCI were calculated to be 2,663 and 803 procedures per 100,000 Medicare enrollees. The relative incidence of FFR per catheterization increased from 1% in 2005 to 5.3% in 2013. The Pearson correlation coefficient r was calculated to be -0.95, indicating a negative correlation between the incidence of FFR and PCI in the Medicare population.

CONCLUSION The results show that FFR use is minimal in a nationally represented population, although the rates of usage have been increasing. In addition, a negative correlation between PCI and FFR use was determined. Further analysis is required to determine FFR and PCI/stent utilization by hospitals to assess their potential over-utilization.

CATEGORIES OTHER: Quality, Guidelines and Appropriateness Criteria

IMAGING: INTRAVASCULAR

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TCT-545

Use of optical coherence tomography to detect acute coronary syndrome in survivors of out-of-hospital cardiac arrest without ST-segment elevation on ECG.



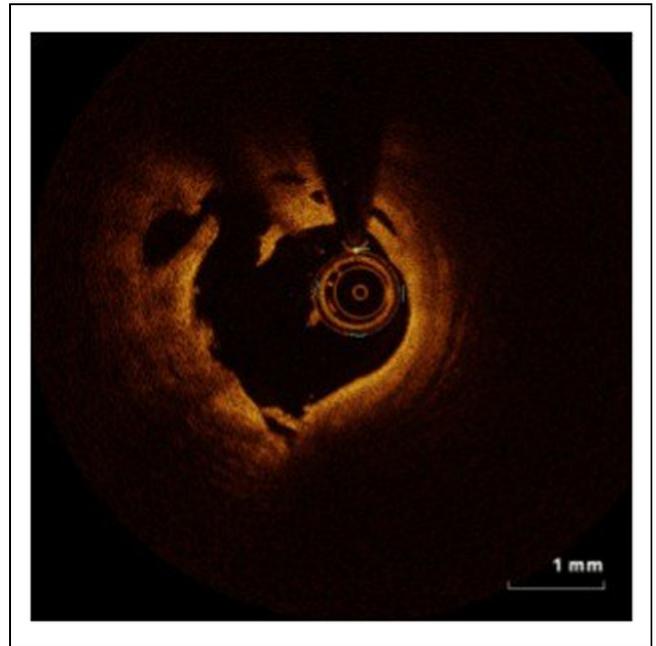
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BACKGROUND Systematic emergency coronary angiography for out-of-hospital cardiac arrest (OHCA) patients without ST-segment elevation remains debatable. We investigated the value of optical coherence tomography (OCT) to detect plaque rupture or intracoronary thrombus in these patients after return of spontaneous circulation (ROSC).

METHODS In our center, all OHCA patients without obvious extracardiac cause undergo systematic emergency coronary angiography irrespective of ECG findings. In patients with mild coronary atheroma, 3-vessel OCT was performed followed by percutaneous coronary intervention if plaque rupture or acute thrombosis were detected.

RESULTS Between February and June 2016, 30 patients were included. Among the 27 patients without ST-segment elevation after ROSC, 16 had angiographically normal coronary arteries, 2 had acute coronary occlusion and 9 had mild coronary atheroma. OCT revealed

coronary plaque rupture and/or thrombus (Figure) in 5 of the patients with mild coronary atheroma (56%). They subsequently underwent immediate angioplasty of the identified lesion. No complications occurred due to intravascular imaging.



CONCLUSION Plaque rupture or acute coronary thrombosis was observed on OCT in around 25% of our all-comers population of consecutive OHCA patients without ST-segment elevation, and in up to 56% of those with mild coronary atheroma. Thus, one out of four OHCA patients without ST-segment elevation after ROSC had an acute coronary syndrome which would not have been diagnosed without systematic coronary angiography and intracoronary imaging.

CATEGORIES IMAGING: Intravascular

TCT-546

Imaging and physiology-guided zero contrast percutaneous coronary intervention in advanced chronic kidney disease



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BACKGROUND Percutaneous coronary intervention (PCI) in patients with advanced chronic kidney disease (CKD) is associated with high risk of contrast-induced nephropathy and need for renal replacement therapy (RRT). We investigated a strategy for "zero contrast" PCI with the aims of preserving renal function and preventing need for RRT in patients with advanced CKD.