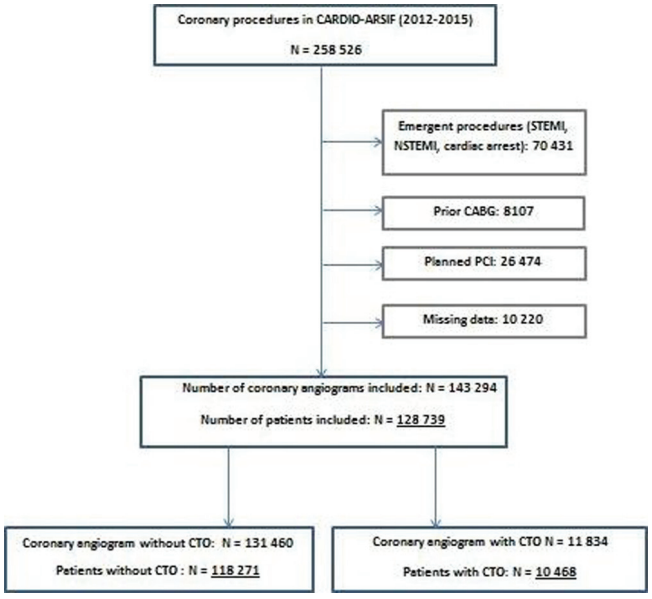
Purpose: The aim of this study was to provide contemporary data on chronic total occlusion (CTO) prevalence and management in a large unselected population in Paris, and to compare percutaneous coronary intervention (PCI) features in patients with and without CTO.
Methods: Between 2012 and 2015, 258526 elective coronary procedures were performed in the Paris conurbation and registered in the Cardio-ARSIF (Agence Régionale de Santé Ile de France) registry. Patients with acute coronary syndrome or previous coronary artery bypass grafting were excluded. Coronary CTO features were assessed and PCIs with and without CTO were compared.
Results: Of 128 739 included patients, 10 468 (8.1%) had at least one CTO. The cardiovascular risk-factor burden was higher in the CTO group with higher prevalence of hypertension, dyslipidemia, current smoking, and diabetes. CTO group had more patients with multivessel disease (73.8% vs 23.5%, $p<0.0001$) and with referral for interventional management (59% vs. 33%, $p<0.0001$). Both ad hoc and staged PCIs were more common in patients with versus without CTO. In the CTO-PCI group, 86.6% of patients had documented ischemia. Of the 49923 PCIs performed during the study period, 5.7% involved a CTO; this proportion increased significantly over the study period from 2.6% in 2012 to 7.2% in 2015 ($p<0.0001$). Fluoroscopy time decreased significantly from 2012 to 2014 and remained stable thereafter, whereas the dose-area product continued to decrease ($p<0.0001$). The CTO-PCI success rate was 75.9%. CTO-PCI volume per center did not correlate with CTO-PCI success rate, Even after excluding very low volume centers (<25/year).



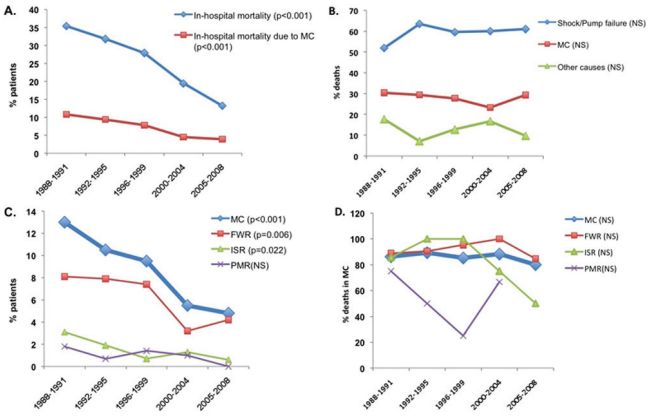
Flowchart of the study population

Conclusion: Our CTO prevalence of 8.1% is lower than earlier reports. Recent data suggest that the prevalence of CTO may be declining in western countries. This decline might be related to improved cardiovascular risk management and to the increasing rate of primary PCI in patients with STEMI and non-STEMI. Invasive management is done more often in patients with than without CTO either by PCI or CABG.These results confirm that the presence of a CTO is no longer an obstacle to treat coronary stenosis by PCI. The success rate of PCI in CTO is not associated with case volume per center. The use of PCI to treat CTO is increasing in everyday practice. The procedural success rate of CTO-PCI was acceptable, at 75.7% compared to 97.1% for non-CTO-PCI, but indicates room for improvement via improvements in equipment and techniques. The Cardio-ARSIF registry provides useful data for monitoring CTO procedures on a large scale and over a long period.

P3638
Time trends in mechanical complications after ST-elevation myocardial infarction

E. Puerto[1], A. Viana[2], M. Martinez-Selles[2], G. Moreno[1], R. Martin-Asenjo[1], H. Bueno[1]. *[1]University Hospital 12 de Octubre, Madrid, Spain; [2]University Hospital Gregorio Maranon, Cardiology, Madrid, Spain*

Aim: The increased use of reperfusion therapy has led to an important decline in short-term mortality after acute STEMI in the last decades, particularly in the oldest patients. While the rate of cardiogenic shock has not changed dramatically, we speculated whether a change in the incidence or fatality rate of mechanical complications (MC), the second cause of death in these patients, might justify the improvement in survival. We aimed to assess the time trends in the incidence, management, and fatality rates of MC, and its influence on short-term mortality in older patients with STEMI.
Methods and results: Between Jan-1988 and Dec-2008, 1393 patients ≥75 years old with first STEMI were enrolled. Time trends across five time periods were analysed with the Mantel-Haenszel χ^2 test of linear association for categorical variables. All-cause, in-hospital mortality decreased from 35.5% in 1988–1991 to 13.5% in 2005–2008 (RRR 62%, p for trend<0.001). While the absolute mortality due to MC decreased from 6.9% to 3.9% ($p<0.001$), the proportion of deaths among all deaths did not change (28.2% to 29.3%, p=0.46). The incidence of MC went down from 13.0% in 1988–1991 to 4.8% in 2005–2008 (RRR 63%), with a 48% RRR in the incidence of free wall rupture (from 8.1% to 4.2%, $p<0.01$), a 80% RRR in the incidence of ventricular septal rupture (from 3.1% to 0.6%, p=0.02) and from 0.9% to 0% for papillary muscle rupture, p=0.07). Survival after MC did not change over time (from 13.8% to 20%, p=0.63) while surgical repair fell from 27.6% to 13.3% (p=0.005) with no difference in postoperative survival (from 30.8% to 50%, p=0.55).

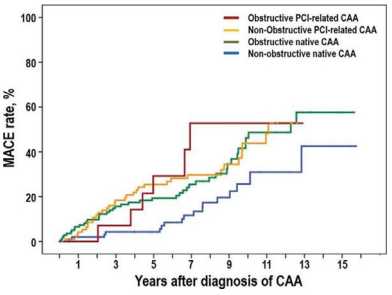


Conclusion: Although reperfusion therapy has been successful in decreasing the incidence of MC in elderly patients with STEMI over a 20 year-period, this reduction was proportional to other causes of death, that is, non-specific. Case-fatality rates after MC have not improved over time, with and without surgery.

P3639
Long term clinical outcomes of patients with coronary artery aneurysm

K.H. Jeon[1], P.S. Song[1], M.J. Kim[1], J.B. Kim[2], H.J. Jang[2], J.S. Kim[2], T.H. Kim[2], H.J. Lee[2], J.S. Park[1], R.K. Choi[1], Y.J. Choi[2], M.M. Lee[2]. *[1]Mediplex Sejong Hospital, Cardiovascular center, Incheon, Korea Republic of; [2]Sejong General Hospital, Cardiology, Bucheon, Korea Republic of*

Background/Introduction: Coronary artery aneurysm (CAA) is uncommon anomaly of coronary artery that is related with atherosclerosis. However, natural history of CAA remains unclear and long term clinical outcome of CAA has not been elucidated.
Aim: The purpose of this study was to identify the incidence of CAA and the long-term clinical outcomes of patients with non-obstructive (NOb) or obstructive CAA.
Methods: We retrospectively collected the data by analyzing the angiographic data of 37 451 consecutive adult patients undergoing coronary angiography (CAG) between January 2001 and December 2012. The CAA was defined as a localized dilatation of a coronary artery segment more than 1.5-fold compared with adjunctive normal segment.
Results: CAAs were found in 435 vessels from 365 patients and the incidence of CAA was 0.97%. Mean age of patients was 61.7±11.2 years and 230 patients (63%) were male gender. The number of CAA in native coronary artery was 313 (72%) and 122 CAAs (28%) were related with previous percutaneous coronary intervention (PCI). Most common affected artery was right coronary artery (39.6%) in native CAA and left anterior descending artery (59.0%) in PCI-related CAA (P=0.001). Morphologically, most of native CAA were fusiform type (77.6%) and saccular type was common in PCI-related CAA (50.8%). In native CAA, 146 (46.6%) was non-obstructive (NOb) CAA and 105 (86%) were non-obstructive in PCI-related CAA. Follow-up CAG was done in 236 vessels (median follow-up duration: 1.7 years). Aggravated stenosis was found in 67 CAAs (28.4%) and increased size, decreased size and stationary size of CAA were 37 (15.7%), 33



Kaplan-Meier survival curve of CAAs