



**TRENDS AND IN-HOSPITAL OUTCOMES OF PATIENTS ADMITTED WITH ST ELEVATION MYOCARDIAL INFARCTION AND CHRONIC TOTAL OCCLUSIONS: INSIGHTS FROM A NATIONAL DATABASE**

Poster Contributions  
Poster Hall, Hall C  
Sunday, March 19, 2017, 9:45 a.m.-10:30 a.m.

Session Title: Advances in Chronic Total Occlusion Intervention  
Abstract Category: 20. Interventional Cardiology: Coronary Intervention: CTO  
Presentation Number: 1282-125

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**Background:** Chronic total occlusion (CTO) is implicated in worse outcomes from ST-Elevation Myocardial Infarction (STEMI) due to the “double jeopardy” concept. There is no large national data evaluating the trends and outcomes of STEMI patients who have a CTO (STEMI-CTO).

**Methods:** We analyzed the Nationwide In-Patient Sample database and compared trends, clinical characteristics and In-Hospital outcomes of STEMI pts with and without CTO.

**Results:** An increasing trend of concomitant CTO was seen in STEMI pts from 2008 to 2011 (9.7% to 13.1% of all STEMI admissions, relative increase 35%, p trend <0.001). STEMI-CTO patients were younger (61.8 vs 63.2 yrs, p<0.001), more likely to be male (74.3% vs. 67.4%, p<0.001), have family history of coronary artery disease (12.6% vs. 10.7%, p<0.001), had prior percutaneous coronary intervention (PCI) (12% vs. 10.4%, p<0.001), develop cardiogenic shock (CS) (11.4% vs. 10%, p<0.001), undergo PCI (87.6% vs. 76.1%, p <0.001) and thrombolysis (2.6% vs 2%, p<0.001). There was no difference in in-hospital death, pericardial complications or need for dialysis. However, STEMI-CTO pts were more likely to have iatrogenic cardiac complications, vascular complications, need percutaneous mechanical circulatory support (pMCS) and require both bypass surgery (CABG) and PCI (Table).

**Conclusions:** STEMI-CTO is increasing in incidence and these pts have a higher likelihood of having CS, require pMCS, have iatrogenic cardiac and vascular complications and undergo both CABG and PCI.

Adjusted Outcomes of STEMI patients with and without Chronic Total Occlusions.

Outcome	STEMI without CTO (n=117,686)	STEMI with CTO (n=15,938)	p value	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Death	8,684 (7.4%)	911 (5.7%)	<0.001	0.76 (0.71-0.82)	0.93 (0.85-1.00), p=NS
Post-procedure Stroke/TIA	2,890 (2.9%)	280 (1.8%)	<0.001	0.71 (0.63-0.80)	<b>0.87 (0.76-0.99), p&lt;0.05</b>
Iatrogenic Cardiac Complications	3,348 (2.8%)	639 (4%)	<0.001	1.43 (1.31-1.56)	<b>1.27 (1.15-1.40), p&lt;0.001</b>
Vascular Complications	8,005 (6.8%)	1209 (7.6%)	<0.001	1.13 (1.06-1.20)	<b>1.13 (1.05-1.21), p&lt;0.01</b>
Pericardial Complications	385 (0.3%)	46 (0.3%)	NS	0.88 (0.65-1.12)	0.79 (0.55-1.11), p=NS
Acute Renal Failure requiring Dialysis	742 (0.6%)	78 (0.5%)	<0.05	0.78 (0.61-0.98)	0.83 (0.65-1.08), p=NS
Requiring Open Heart Surgery	989 (0.8%)	116 (0.7%)	NS	0.87 (0.71-1.05)	0.94 (0.75-1.17), p=NS
Percutaneous Mechanical Circulatory Support	11,853 (10.1%)	2,141 (13.4%)	<0.001	1.39 (1.32-1.46)	<b>1.35 (1.27-1.45), p&lt;0.001</b>
Both CABG and PCI	2547 (2.2%)	519 (3.3%)	<0.001	1.52 (1.38-1.68)	<b>1.23 (1.11-1.37), p&lt;0.001</b>