

Acute Coronary Syndromes

LOWER HOSPITAL VOLUME IS ASSOCIATED WITH HIGHER IN-HOSPITAL MORTALITY FOR PATIENTS UNDERGOING PRIMARY PCI FOR ST ELEVATION MYOCARDIAL INFARCTION

ACC Moderated Poster Contributions
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Background: Current guidelines recommend ≥ 36 primary (P) PPCIs/center/year. The validity of this guideline with routine use of newer anti-platelet agents and stenting is unclear.

Methods: STEMI pts with PPCI between 6/06-7/08 included in the NCDR Cath/PCI Registry were grouped based on annual center volume (Low (L): < 36 , intermediate (I): 36-60, High (H): > 60). The effect of center annual volume on D2B times and in-hospital mortality was examined, adjusting for clinical and angiographic variables as well as the pts' clustering among centers. Analyses were repeated in pts with cardiogenic shock or presenting off hours.

Results: A total of 44,961 STEMI pts with PPCI from 384 centers (138 L [36%], 120 [31%] I, and 126 [32%] H volume) were included. Clinical variables were similar among the 3 groups, except for significantly more Class IV CHF (59 vs 35%) and cardiogenic shock pts (10.4 vs 9.7%) in H vs L centers. D2B times were faster in H vs L volume centers (Table). Unadjusted mortality (5.8 vs 4.9% $p < 0.01$) was significantly higher in L vs H volume centers, which was maintained after multivariate adjustment (Table). Mortality was not different between I vs H volume centers. Similar findings were present in pts with cardiogenic shock or pts presenting off hours.

Conclusions: There is an inverse relationship between center volume and mortality, which was also present in pts with cardiogenic shock or presenting during off-hours. Current recommendations for > 36 PCIs/centers/year appear valid.

	L	I	H	OR (L vs H)	OR (I vs H)
D2B<90 min	67%	72%	72%	1.24 (1.16-1.32), $p < 0.001$	1.01 (0.96-1.07), $p = 0.58$
Death	5.8%	4.7%	4.9%	1.31 (1.13-1.51), $p < 0.001$	0.95 (0.84-1.08), $p = 0.43$
D2B<90 min	62%	64%	65%	1.08 (0.89-1.31) $p = 0.44$	1.01 (0.86-1.18), $p = 0.93$
Death	32%	29%	28%	1.26 (1.01-1.58), $p = 0.04$	0.96 (0.80-1.15), $p = 0.64$
D2B<90 min	60%	66%	66%	1.26 (1.17-1.36), $p < 0.001$	1.02 (0.96-1.08), $p = 0.59$
Death	5.7%	4.6%	5.0%	1.29 (1.06-1.55), $p = 0.01$	0.90 (0.77-1.05), $p = 0.19$