March 2024

The Efficacy and Frequency of Early Left Heart Catheterization After Out of Hospital Cardiac Arrest Over The Last Decade

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**Recommended Citation**

Mathew, Shobi; Welch, Robert; Swor, Robert; Ehrman, Robert R.; Lagina, Anthony; and O'Neil, Brian, "The Efficacy and Frequency of Early Left Heart Catheterization After Out of Hospital Cardiac Arrest Over The Last Decade" (2024). *Medical Student Research Symposium*. 319.  
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Introduction:
The efficacy of early coronary intervention after return of spontaneous circulation (ROSC) from out of hospital cardiac arrest (OHCA) is debated. We aimed to nationally study the effect of early LHC on survival with good neurological outcome and describe the rate and timing of LHC in OHCA.

Methods:
The observational study included patients enrolled in the national CARES registry from 2013-21. Outcome was cerebral performance category, (CPC) (good <3 vs. poor > 3) at hospital discharge. For the outcome of LHC by year, chi square analysis was performed. A propensity score (PS) model was constructed using variables predictive of LHC and good outcome to determine probability of LHC. The PS was then used in an inverse weighted random effects logistic regression model to determine the independent effect of early LHC on outcome.

Results:
132,789 individual cases identified. Median age=60.3 years. (SD=16.6), 61.8% were male. Early coronary angiography performed in 26,999 (20.3%) patients. Patients who underwent early angiography had shockable rhythms (78% vs 34%), suffered the OHCA in a public location (36.9% vs 26.1%), and were witnessed cardiac arrests (80% vs 48%). For the full model, the OR for a good outcome after early LHC was 2.54 (95% CI 2.36 – 2.73). Only initial shockable rhythm was more predictive of a good outcome with an OR of 3.9

Conclusion:
Early LHC had a strong association with a good functional outcome in this population. The use of early left heart catheterization declined from previous years.