



**CONGENITAL CARDIOLOGY SOLUTIONS  
(PEDIATRIC CARDIOLOGY AND ADULT CONGENITAL HEART DISEASE)**

**EARLY CARDIAC CATHETERIZATION FOLLOWING CONGENITAL HEART SURGERY IS NOT ASSOCIATED WITH INCREASED RISK FOR SERIOUS ADVERSE EVENTS**

ACC Poster Contributions

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**Background:** Catheter based diagnostic and interventional procedures are common adjuncts to surgical repair of congenital heart disease (CHD). The utility of early post-operative catheterization (POC) is debated, and the association with serious adverse events (SAE) has not been well defined

**Methods:** Patients taken to the catheterization lab following cardiac surgery between July 2005 and May 2008 were retrospectively classified according to the timing of post-operative catheterization: early (<42 days) or late ( $\geq$ 42 days). Outcomes of early POC were described, and association with SAE was delineated using multivariable modeling.

**Results:** A total of 1583 patients ages 3d-71y were analyzed: 250 met criteria for early POC. As a group, the early POC patients were younger ( $p<0.001$ ), had more prior surgeries ( $p=0.04$ ) and catheterizations ( $p<0.001$ ), had worse hemodynamic profiles ( $p<0.001$ ), were more likely to be ventilated in the CICU ( $p<0.001$ ), and were less likely to have an intervention when compared to the late POC group. Within the early POC group, the median time to catheterization was 12 days, with 85 (34%) between post-operative day (POD) 0-7, and 60 (24%) between POD 8-14. Information obtained from early POC resulted in reoperation in 66 (24%), catheter intervention in 143 (53%), new physiologic data in 28 (10%), and confirmatory data alone in 34 (12%) patients. The proportion of early POC patients with SAE was 11.6% ( $n=29$ ) compared to 6.4% ( $n=87$ ) in late POC patients ( $p=0.01$ ). However, in multivariable modeling, there was no association between timing of catheterization and risk of SAE (OR 1.16, CI 0.63, 2.15). In subgroup analysis of early POC patients failing to wean from mechanical ventilation ( $n=203$ ), the number days from surgery was not associated with SAE (OR 0.98, CI 0.93, 1.04). SAE in the early POC group included catheter-induced arrhythmia ( $n=13$ ), access or airway complications ( $n=7$ ), vascular tear ( $n=4$ ), and device/stent malposition ( $n=3$ ).

**Conclusions:** Residual lesions identified at early POC prompt therapeutic surgical or catheter re-intervention in the majority of patients. Early POC may be performed after surgical repair of CHD without significantly increased risk of SAE.