

Coronary artery disease screening in adults with congenital heart disease prior to cardiac surgery

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Background:

Adults with congenital heart disease (CHD) are growing older. Pre-operative screening for coronary artery disease (CAD) may be indicated prior to CHD surgery. There is limited data on timing/methods for pre-operative CAD screening in CHD population. Furthermore, whether non-invasive screening with CT coronary angiography (CTA) is adequate for low/intermediate risk CHD patients is unknown. We sought to assess the results of CAD screening in adults with CHD prior to cardiac surgery at our institution.

Methods:

Retrospective review of all pts ≥ 35 with CHD that had cardiac surgery from 1/1/2007 to 5/1/2017 at our institution. Data collected included CAD risk factors, screening modality and outcomes.

Results:

100 pts were included, mean age 47 ± 9 y/o, male=53%. Pre-op CAD risk factors included HTN (27%), smoking (21%), hyperlipidemia (18%), and diabetes (5%). Overall, 73 (73%) pts underwent CAD screening (48 cath + 25 CTA). Twelve (16.4%) were found to have CAD. Two had severe coronary stenosis ($>70\%$) and underwent coronary bypass grafting at time of CHD surgery. Ten had mild CAD and no coronary intervention performed. Pts with CAD were more likely to be older ($p < 0.0001$) and have h/o HTN ($p = 0.01$) and smoking ($p = 0.002$). Gender and CHD diagnosis were not significantly associated with CAD. Of the 25 pts that had only pre-op CTA, 21 (84%) had no CAD, 3 (12%) had mild CAD, and 0 had $>$ mild CAD. There were no peri-operative acute coronary events in any patient.

Conclusions:

Pre-operative CAD screening prior to CHD surgery identified CAD in 16.4% of pts ≥ 35 y/o. Only 2% had severe coronary stenosis requiring bypass grafting at time of CHD surgery. Patients with CAD had traditional risk factors. Further studies are needed to investigate the utility of screening with CTA in low/intermediate risk CHD patients.