



Surgery and Outcomes of Coarctation of Aorta in Children in Srinagarind Hospital (2003-2013)

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Oral

Background and Objective : Coarctation of aorta is a narrowing of aorta, this accounts for 5 to 8 percent of all congenital heart diseases. Patients can be asymptomatic or develop shock and/or heart failure depending on the severity of lesions. This study aim to determine the preoperative risk factors, surgical techniques, complications, and short-term outcomes of coarctation of aorta or hypoplastic aortic arch in children in Srinagarind Hospital (2003-2013).

Methods: All patients age younger than 15 years with a diagnosis of coarctation of aorta which were treated in Srinagarind hospital between 1 January 2003 and 31 December 2013 were included. Group 1 patients consisted of those with isolated coarctation of aorta and group 2, coarctation of aorta with other major cardiac anomalies. All medical records were retrospective review for general characteristics, signs and presenting symptoms, preoperative risk factors, surgical techniques, complications, and short-term outcomes.

Results: The retrospective review in this study include 67 patients: group 1(Isolated coarctation of aorta) 35 (52%) and group 2(Coarctation of aorta with other major cardiac anomalies) 32 (48%). Common presenting symptoms in both groups were dyspnea and cold skin. For the physical examination, we usually found sign of poor tissue perfusion, differential blood pressure, and heart murmur especially for the group 2. Preoperative risk factors that may predict poor outcome were sepsis, multiorgan failure and oliguria. Surgical

correction was done in 53 patients (79%). For group 1 both subclavian flap aortoplasty(n=11, 40%) and end to end anastomosis(n=12, 44%) were commonly used but for group 2 subclavian flap aortoplasty(n=14, 54%) was preferred than end to end anastomosis(n=9, 34%). The most common intraoperative complication was bleeding. The most common short-term postoperative complication was post-operative hypertension, 52% for group 1, and 19% for group 2. For group 2, there were more post-operative complications than group 1; which were sepsis (8%) and acute kidney injury (8%). After follow-up, two patients who were corrected coarctation of aorta by balloon aortoplasty had re-obstruction. For period of this study, seven patients died after surgery; all were group 2 and had multiples pre-operative risk factors.

Conclusions: This study showed that patients with pre-operative sepsis, multiorgan failure, and acute kidney injury lead to poor outcome after surgical correction, or even die before surgery. Subclavian flap aortoplasty was performed predominantly for overall. Intra-operative complication that should be aware was bleeding. Most common post-operative coarctation of aorta correction was hypertension. Overall mortality in the period of this study was 8%.

Keywords: Coarctation of aorta (CoA), Subclavian flap aortoplasty, Cyanotic congenital heart disease, Risk factors, Outcomes, Mortality

