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Transcatheter closure of congenital Coronary artery fistulae – Medium to long-term Outcome

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Introduction: Coronary artery fistulas are rare congenital malformations and have been seen in 0.3% of patients with congenital heart disease and 0.06% of children undergoing echocardiography. Transcatheter closure of coronary artery fistulae (CAF) has emerged as an alternative to surgery, but there is paucity of literature with regards to long term outcome.

Objectives: This study was aimed to assess mid to long term outcomes in a series of patients who underwent transcatheter closure of coronary artery fistulae (CAF) at a tertiary cardiac centre.

Methods: It was a retrospective review of all patients with CAF who underwent transcatheter closure at the Institut Jantung Negara (IJN) between 1996 and 2008. Patients who had closure after 2008 were not included so that a reasonable medium to long term follow up could be obtained.

Results: A total of 33 patients aged 2 m to 47 years old with congenital CAF underwent percutaneous transcatheter closure using various devices. 19 were males and median age at intervention was 10 years (Range 2 m – 47 yrs). Incidental heart murmur was the most frequent presentation present in 50% of cases. Most common site of fistula (50%) was between left coronary artery to right atrium. An angiogram right after device deployment revealed complete occlusion in 28 patients and trivial- to mild residual flow in 4 patients. Long term follow up was available in 22 patients and ranged from 5 - 15 years. There were no early or late deaths. All patients were asymptomatic. Only three patients needed repeat angiograms and one patient had significant residual shunt and needed reintervention to close the defect. Two complications noted early on. One patient had occlusion of LAD which was noted soon after and needed stenting of LAD. Another patient had embolisation of coil into LV and it was retrieved successfully.

Conclusions: Transcatheter closure of CAF is feasible with excellent outcome and can be considered as first line intervention as compared to surgery. Intermediate and long term outcome is favourable without any evidence of significant recananlization.