The Benefit of Patent Ductus Arteriosus Occlusion as The Suggestive Therapy in Patient with Co-exist Atrial Septal Defect - Patent Ductus Arteriosus Congenital Heart Disease. (Case Report).

Wendy Wiharja

**Introduction**: Patent ductus arteriosus (PDA) and atrial septal defect (ASD) are both left-to-right shunt acyanotic congenital heart disease. A persistent PDA may delay closure of coexisting ASD due to volume loading and enlargement of the left atrium. Closure of PDA may prove benefit in reducing diameter of ASD1-2.

**Methods**: CASE REPORT A Pre-term newborn delivered via C-section, birth-weight 1050 gr, looked dyspneic and pale. APGAR score was 7/8. He was admitted to NICU and diagnosed initially with hyaline membrane disease. One month after admission, he failed to thrive and his symptoms worsened and he was intubated and given mechanical ventilation. On physical examinations: HR 130bpm, RR 60x/m, temp 37.3°C. Chest radiography showed patchy infiltrates in the lungs. He was referred to cardiologist because congenital heart disease was suspected. Echocardiography was done, and it showed PDA ø 5 mm and ASD ø 2 mm, mild tricuspid regurgitation, EF 53-77%. He was diagnosed with acyanotic heart disease (PDA and ASD). Captopril was given to the patient, and the patient was referred for further therapies.

**Result**: DISCUSSION PDA with ø ≥5 mm, is commonly categorize as operable, on the other hand ASD with ø ≤5 mm is commonly closed itself without surgical treatment1,4. Co-existence of PDA and ASD may cause volume overload in left atrium and increase shunting from left to right heart, which decrease ASD closure, even though its ø ≤5 mm2-3. A study by Stapleton et.al investigate the natural history of ASD size in patients with a PDA, Following transcatheter PDA occlusion, ASD diameter decreased in 6 of 8 patients by a mean of 3.8 mm (+/−2.3 mm), including 2 that closed. The median duration of follow-up was 689 days. One ASD remained unchanged and 1 increased in size. The mean maximum ASD diameter decreased from 6.4 mm (+/−2.2 mm) to 3.9 mm (+/−3.4 mm) (P = .03)1-3.

**Conclusion**: Following transcatheter PDA occlusion, small to moderate sized ASDs have significant probability to decrease in size, and possibly closed. In our patient, the condition of the co-exist PDA-ASD is eligible for such approaching and should be suggested for his surgical procedure.