

# Korelasi antara Tekanan Akhir Diastolik Ventrikel Sistemik sebelum Operasi Fontan Ekstrakardiak Konduit dan Fenestrasi dengan Lama Efusi Pleura dan Lama Rawat = Correlation between systemic ventricle end diastolic pressure before fontan extracardiac conduit and fenestration procedure with post operative pleural effusion and length of stay

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## Abstrak

### <b>ABSTRAK</b>

Latar Belakang. Salah satu penyakit jantung bawaan (PJB) yang kompleks adalah terdapatnya satu ventrikel yang fungsional. Tatalaksana yang dilakukan untuk kelainan ini adalah dengan operasi Fontan. Efusi pleura merupakan salah satu komplikasi yang sering terjadi setelah operasi Fontan. Peningkatan tekanan akhir diastolik ventrikel sistemik (TADVS) sebelum operasi diduga turut berperan dalam terjadinya efusi pleura paska operasi Fontan.

Metode. Studi potong lintang dilakukan terhadap populasi yang sudah dilakukan operasi Fontan dengan ekstrakardiak konduit dan fenestrasi di Rumah Sakit Jantung dan Pembuluh Darah Harapan Kita (RSJPDHK) periode April 2006 sampai dengan April 2016. Durasi efusi pleura berdasarkan pada lama terpasangnya selang (drain) intrapleura setelah operasi Fontan. Lama rawat adalah lama rawat setelah operasi Fontan. Data studi diambil dari rekam medik.

Hasil. Populasi studi penelitian sebanyak 63 pasien dengan nilai rerata TADVS adalah 9,7 mmHg dengan standar deviasi  $\pm 2,8$  mmHg. Efusi pleura terjadi pada semua pasien dengan nilai tengah 9 hari (2-54 hari), dengan 43 pasien (68,3%) yang  $> 7$  hari. Nilai tengah lama rawat adalah 20 hari (8-58 hari). Uji korelasi Spearman menunjukkan tidak terdapat korelasi bermakna antara TADVS dengan lama efusi pleura sesudah operasi ( $p = 0,548$ ,  $r = -0,077$ ) dan lama rawat ( $p = 0,843$ ,  $r = -0,025$ ). Analisis bivariat menunjukkan 2 variabel yang mempunyai korelasi bermakna terhadap lama efusi pleura yaitu dominan ventrikel kanan ( $p = 0,014$ ) dan waktu CPB ( $p = 0,003$ ), kemudian terdapat 5 variabel berkorelasi bermakna terhadap lama rawat yaitu waktu CPB ( $p = 0,023$ ), aritmia sesudah operasi ( $p = 0,021$ ), lama aritmia sesudah operasi ( $p = 0,009$ ), infeksi sesudah operasi ( $p = 0,000$ ), kadar albumin sesudah operasi ( $p = 0,005$ ) dan lama efusi pleura sesudah operasi ( $p = 0,000$ ).

Kesimpulan. Tidak terdapat korelasi bermakna antara TADVS sebelum operasi Fontan dengan lama efusi pleura sesudah operasi dan lama rawat.

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### <i><b>ABSTRACT</b></i>

Background: Congenital Heart Disease (CHD) is a major congenital disease. One of the most common is a CHD that only have single functional ventricle. Management for this disease is Fontan operation. Pleural effusion is one of the most common complication after operation. Elevated systemic ventricle end diastolic pressure (SVEDP) will increase pulmonary vein pressure, pulmonary artery pressure, and pleural vein

pressure consecutively that leads to pleural effusion.

Goals: To correlate between SVEDP before Fontan operation with post operative pleural effusion duration and length of stay.

Methods: Cross sectional study was performed to patients who underwent Fontan operation extra cardiac conduit and fenestration at National Cardiac Centre Harapan Kita (NCCHK) from April 2006 to April 2016. Pleural effusion duration was based on chest tube indwelling time after operation. Length of stay was days the patient hospitalized after operation. Baseline characteristic of the patients were obtained from medical records.

Results: Subjects were 63 patients who fulfilled the criteria. Mean SVEDP was 9.7 mmHg with standard deviation of  $\pm 2.8$  mmHg. Pleural effusion occurred to all subjects ranged 2-54 days (median 9 days), in which 43 patients (68.9%) more than 7 days. Length of stay after operation ranged 8-58 days (median 20 days). Spearman correlation test showed no correlation between SVEDP with post operative pleural effusion duration ( $p = 0.548$ ,  $r = -0.077$ ) and length of stay ( $p = 0.843$ ,  $r = -0.025$ ). Bivariate analysis showed correlation between right ventricle domination and CPB time to pleural effusion duration with  $p = 0.014$  and  $p = 0.003$  respectively, whereas factors that correlate to length of stay after operation were CPB time ( $p = 0.023$ ), post operative arrhythmia ( $p = 0.021$ ), post operative arrhythmia duration ( $p = 0.009$ ), post operative infection ( $p = 0.000$ ), post operative albumin level ( $p = 0.005$ ) and post operative pleural effusion duration ( $p = 0.000$ ).

Conclusions: There is no correlation between SVEDP before Fontan operation with post operative pleural effusion duration and length of stay.