Pengaruh Usia Tua saat Operasi Terhadap Kesintasan Jangka Panjang Pascaoperasi Fontan = Impact of Older Age at Completion of Fontan Procedure on Long Term Survival

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Abstrak

Latar belakang: Usia operasi Fontan terbaik masih kontroversial. Pusat jantung di negara maju menggunakan batasan usia 2-4 tahun. Kebanyakan operasi Fontan di Indonesia dikerjakan pada usia tua. Dengan kemajuan teknik operasi, bagaimana dampak usia tua saat operasi Fontan terhadap kesintasan belum ada datanya.
Tujuan: Mengetahui pengaruh usia tua saat operasi Fontan terhadap kesintasan jangka panjang.
Metode: Penelitian ini merupakan studi kohort retrospektif dengan analisis kesintasan terhadap pasien pascaoperasi Fontan (1 Januari 2008-31 Desember 2019) di Pusat Jantung Nasional Harapan Kita. Pengumpulan data dilakukan dari rekam medis, konferensi bedah, serta follow-up melalui telepon atau surat hingga 1 April 2020. Usia dibagi menjadi usia 6 tahun dan > 6 tahun.
Hasil: Dari total 261 subjek, median usia operasi yaitu 5 tahun (2-24 tahun). Kesintasan usia operasi 6 tahun dan > 6 tahun yaitu 95,7% dan 89,3%. Hasil subanalisis kesintasan usia operasi < 4 tahun, 4-6 tahun (referensi), 6-8 tahun, 8-10 tahun, 10-18 tahun, dan > 18 tahun yaitu 90,5%, 97,9%, 93,8%, 84,8%, 91,4%, dan 66,7%. Usia 8-10 tahun (HR 6,79; p = 0,022), 10-18 tahun (HR 3,76; p = 0,147), dan >18 tahun (HR 15,30; p = 0,006) memiliki kesintasan terendah. Usia operasi > 6 tahun (HR 3,84; p = 0,020) dan kebutuhan furosemid jangka panjang (HR 3,90; p = 0,036) signifikan meningkatkan risiko kematian pada analisis multivariat.
Kesimpulan: Usia operasi Fontan > 6 tahun signifikan menurunkan kesintasan jangka panjang. Usia operasi 8-10 tahun dan > 18 tahun memiliki risiko kematian 6,7 kali dan 15,3 kali dibandingkan usia 4-6 tahun.
.....Background: The optimal age to perform the Fontan procedure is still unknown. Currently, the majority of centres worldwide are performing the procedure between 2 and 4 years old. Most of Fontan procedures in Indonesia are performed at older age. With the advancement in surgical techniques, there is no data regarding the impact of older age at completion of Fontan procedure on long term survival.
Objective: To evaluate the impact of older age at Fontan procedure on long term survival.
Methods: We conducted a retrospective cohort study with survival analysis, of patients underwent Fontan completion (Januari 1, 2008, to December 31, 2019), at National Cardiovascular Center Harapan Kita. The data was collected from medical records, surgical conference, and follow up by phone or mail to the end of the study (April 1, 2020). The age of operation was categorized into 6 years old and > 6 years old.
Results: Of 261 subjects, the median age was 5 years (2-24 years). The survival rate of operation age 6 years old and > 6 years old were 95.7% and 89.3%. The survival rate in subgroup analysis of operation age < 4 years, 4-6 years (reference age), 6-8 years, 8-10 years, 10-18 years, and > 18 years were 90.5%, 97.9%, 93.8%, 84.8%, 91.4%, and 66.7% respectively. The age of operation 8-10 years (HR 6.79; p = 0.022), 10-18 years (HR 3.76; p = 0.147), and > 18 years (HR 15.30; p = 0.006) had worse survival rate than the others. In multivariate analysis, age of Fontan completion > 6 years old (HR 3.84; p = 0.020) and need for furosemide use (HR 3.90; p = 0.036) significantly increased long term mortality.

Conclusion: The age of operation > 6 years old was significantly reduced long term survival rate. The age of 8-10 years old and > 18 years old had higher risk of death (6.7 times and 15.3 times) than age of 4-6 years old.