

ABSTRAK

Korelasi dosis kumulatif anthracycline terhadap penurunan *ejection fraction*

Pada pasien *acute lymphoblastic leukemia*

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Latar belakang Jumlah penderita ALL mengalami peningkatan setiap tahun. Kemajuan kemoterapi dengan penggunaan anthracycline meningkatkan kesintasan dan risiko kardi toksisitas. Korelasi dosis kumulatif anthracycline dan penurunan fungsi jantung belum dilaporkan di Indonesia.

Obyektif Mengetahui korelasi dosis kumulatif anthracycline dengan penurunan EF pada pasien ALL.

Metode Kami melakukan penelitian potong lintang sejak Mei 2016 hingga Februari 2017 di RSUP Dr. Sardjito. Kriteria inklusi adalah anak berusia >1 bulan - 18 tahun yang terdiagnosis ALL, sudah mendapatkan kemoterapi anthracycline dan menyetujui informed consent. Anak dengan riwayat penyakit jantung (kongenital atau didapat) dan tidak datang saat pemeriksaan akan dieksklusi. Anak-anak tersebut menjalani pemeriksaan fisik, pemeriksaan elektrokardiografi dan *echocardiography*.

Hasil Terdapat 70 anak yang berpartisipasi dalam penelitian ini. Terdapat 2 (2,8%) subyek mengalami kardiomiopati. Kardi toksisitas terbanyak adalah takikardia (50%) dan Hipertrofi ventrikel kiri (15,7%). Sebagian besar (45,8%) kardi toksisitas terjadi pada fase induksi kemoterapi. Terdapat korelasi negatif yang signifikan antara dosis kumulatif anthracycline dan EF ($r -0,27$; $p 0,02$). Tidak ada korelasi yang signifikan antara dosis kumulatif anthracycline dan MV E/A ($r -0,08$; $p 0,52$) serta TAPSE ($r 0,05$; $p 0,67$).

Kesimpulan Dosis kumulatif anthracycline memiliki korelasi negatif yang signifikan dengan EF. Ditemukan banyak kardi toksisitas terutama pada fase induksi kemoterapi.

Kata kunci anthracycline, kardi toksisitas, ALL, anak, *ejection fraction*

ABSTRACT

Correlation of anthracycline cumulative dose with ejection fraction in childhood acute lymphoblastic leukemia

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Background: The prevalence of acute lymphoblastic leukemia (ALL) has increased every year. Advance chemotherapy with anthracycline has increased survival rate and risk of cardiovascular problem. Correlation of anthracycline cumulative dose and ejection fraction have never been reported in Indonesia.

Objectives: to analyze correlation of anthracycline cumulative dose and ejection fraction in childhood ALL patients.

Methods: We conducted a cross sectional study since May 2016 until February 2017 in Dr. Sardjito hospital. The inclusion criteria were children >1 month - 18 years old who were diagnosed with ALL, already received anthracycline and gave consent. Children with prior heart disease (acquired or congenital) and failed to attend the examination schedule were excluded. They underwent physical examination, electrocardiography and echocardiography.

Results: There were 70 children participated in this study. There were 2 (2,8%) children who suffered from cardiomyopathy. The most common cardiotoxicity sign were tachycardia (50%) and left ventricle hypertrophy (15,7%). Most of cardiotoxicity (45,8%) occurred in induction phase of chemotherapy. There was a significant correlation between anthracycline cumulative dose and ejection fraction ($r -0,27$; $p 0,02$) but not with mitral valve (MV) E/A ratio ($r -0,08$; $p 0,52$) and tricuspid annular plane systolic excursion (TAPSE) ($r 0,05$; $p 0,67$).

Conclusion: Anthracycline cumulative dose has significant negative correlation with ejection fraction. Most of cardiotoxicity occurred in induction phase of chemotherapy.

Keywords anthracycline, cardiotoxicity, ALL, children, ejection fraction, correlation