

DAFTAR PUSTAKA

1. Siahaan HI, Tobing TC, Rosdiana N, Lubis B. Dampak kardi toksik obat kemoterapi golongan antrasiklin. *Sari pediatri*. 2007;9(2):151-6.
2. Chow EJ, Leger KJ, Bhatt NS, Mulrooney DA, Ross DJ, Aggarwal S. Pediatric cardio-oncology: Epidemiology, screening, prevention and treatment. *Cardiovasc Res*. 2019.pii: cvz031. doi: 10.1093/cvr/cvz031.
3. Lipshultz SE, Kamik R, Sambatakos P, Franco VI, Ross SM, Miller TL. Anthracycline-related cardiotoxicity in childhood cancer survivor. *Curr Opin Cardiol*. 2014;29:103-12.
4. Volkova M, Russel R. Anthracycline cardiotoxicity: Prevalence, pathogenesis and treatment. *Curr Cardiol Rev*. 2011;7:214-20.
5. Corremans R, Adao R, DeKeulenaer GW, Leite-Moreira, Bras-Silva C. Update on pathophysiology and preventive strategies of anthracycline-induced cardiotoxicity. *Clin Exp Pharmacol Physiol*. 2018;00:1-12.
6. Shaikh AS, Saleem AF, Mohsin SS, Alam MM, Ahmed MA. Anthracycline-induced cardiotoxicity: Prospective cohort study from Pakistan. *BMJ Open*. 2013;3:1-6.
7. Vejpongsa P, Yeh ETH. Prevention of anthracycline-induced cardiotoxicity. *J Am Coll Cardiol*. 2014;64:938-45.
8. Navarrete EM, Zapata MM, Vera H, Erdmenger J, Lopez B, Becerra R. Timely diagnosis of myocardial damage in patients treated with anthracycline: a challenge for the 21st century. *Bol Med Hosp Infant Mex*. 2013;70(2):72-6.
9. UKK Hematoonkologi. Protokol pengobatan leukemia limfoblastik akut anak. Jakarta: UKK HO;2013.
10. Bu'Lock FA, Mott GM, Oakhill A, Martin EP. Left ventricular diastolic function after anthracycline chemotherapy in childhood: relation with systolic function, symptom, and pathophysiology. *Br.Heart.J*. 1995;73:340-50.
11. Salgado AA, Filho CDC, Reis CASS. The role of echocardiography in chemotherapy. *Arq Bras Cardiol:imagem cardiovasc*. 2014;27(1):18-23.
12. Oztarhan K, Guler S, Aktas B, Arslan M, Salsioglu Z, Gonul A. The value of echocardiography versus cardiac troponin I levels in the early detection of anthracycline cardiotoxicity in childhood acute leukemia: Prospective evaluation of a 7 year long cl.
13. Yang F, Teves SS, Kemp CJ, Henikoff S. Doxorubicin, DNA torsion, and chromatin dynamics. *Biochim Biophys Acta*. 2014;1845:84-9.
14. Friedman MA, Bozdech MJ, Billingham ME, Rider AK. Doxorubicin cardiotoxicity. Serial endomyocardial biopsies and systolic time intervals. *JAMA*. 1978; 240(15):1603-1606.
15. Cardinale D, Sandri MT. Role of biomarkers in chemotherapy-induced cardiotoxicity. *Prog in Cardiovasc Dis*. 2010;53:121-9.
16. Muller-Bardorff M, Hallermayer K, Schroder A, Ebert C, Borgya A, Gerhardt W, et al. Improved troponin T Elisa specific for cardiac troponin T isoform: assay development and analytical and clinical validation. *Clin Chem*.1997;43:458-66.
17. Bertinchant JP, Polge A, Juan JM. Evaluation of cardiac troponin I and T levels as markers of myocardial damage in doxorubicine-induced cardiomyopathy rats, and their relationship with echocardiographic and histological findings. *Clin Chim Acta*. 2003;

18. Yeh ETH, Tong AT, Lenihan DJ, Yusuf SW, Swafford J CC. Review: Current Perspective Cardiovascular Complications of Cancer Therapy. 2004; 109: 3122–31.
19. Cardinale D, Sandri MT, Colombo A, Colombo N, Boeri M, Lamantia G, et al. Prognostic value of troponin I in cardiac risk stratification of cancer patients undergoing high-dose chemotherapy. *Circulation*. 2004;109:2749-54.
20. Permono B, Ugrasena IDG, Supriyadi E. Leukemia Akut. Dalam: Windiastuti E, Nancy YM, Mulatsih S, Sudarmanto B, Ugrasena IDG, penyunting. Buku ajar hematologi-onkologi anak. Edisi revisi. Jakarta: IDAI; 2018.h.276-91.
21. Lanzkowsky P. Manual of pediatric hematology and oncology. 4th Ed. Burlington: Elsevier Academic Press; 2005.p.415-52.
22. Data registrasi kanker. Divisi Hematologi Onkologi FKUI/RSCM 2009.
23. Supriyadi E, Widjajanto PH, Purwanto I, Cloos J, Veerman AJP, Sutaryo S. Incidence of childhood leukemia in Yogyakarta, Indonesia, 1998-2009. *Pediatr Blood Cancer*. 2011;57:588-93.
24. Smith OP, Hann IM. Clinical features and therapy of lymphoblastic leukemia. In:Arceci RJ, Hann IM, Smith OP, editor. *Pediatric hematology*. 3rd Ed. Massachusetts: Blackwell Publishing; 2006. h.450-73.
25. Minotti G, Menna P, Salvatorelli E, Cairo G, Gianni L. Anthracyclines: Molecular advances and pharmacologic developments in antitumor activity and cardiotoxicity. *Pharmacol Rev*. 2004;56(2):185-229.
26. Sterba M, Popelova O, Vavrova A, Jirkovsky E, Kovarikova P, Gersi V, et al. Oxidative stress, redox signaling and metal chelation in anthracycline cardiotoxicity and pharmacological cardioprotection. *Antioxid Redox Signal*; 18:899-929.
27. Simunek T, Sterba M, Popelova O, Adamcova M, Hrdina R, Gersi V. Anthracycline-induced cardiotoxicity: Overview of studies examining the roles of oxidative stress and free cellular iron. *Pharmacol Rep*. 2009;61:154-71.
28. Vavrova A, Jansova H, Mackova E, Machacek M, Haskova P, Tichotova L, et al. Catalytic inhibitors of topoisomerase II differently modulate the toxicity of anthracyclines in cardiac and cancer cells. *PloS One*. 2013;8:e766676.
29. Finkel R, Clark MA, Cubeddu LX. Obat-obat kemoterapi. Dalam: Harvey RA, Champe PC, penyunting. *Farmakologi*. Edisi ke-4. Jakarta: EGC; 2008.h.560-2.
30. Goodman LS, Alfred G, Hardman JG, Limbird LE, Gilman AG. Obat-obat anti neoplastik. Dalam: Martin JW, Morris JM, penyunting. *Dasar farmakologi terapi*. Edisi ke-10. New York: the Mcgraw-hill companies; 2001.h.1399-402.
31. Monsuez JJ, Charniot JC, Vignat N, Artigou JY. Cardiac side-effects of cancer chemotherapy. *Int J Cardiol*. 2010;144:3-15.
32. Lenneman CG, Sawyer DB. Cardiooncology an update on cardiotoxicity of cancer related treatment. *Circ Res*. 2016;118:1008-20.
33. Octavia Y, Tocchetti CG, Gabrielson KL, Janssens S, Crijns HJ, Moens AL. Doxorubicin-induced cardiomyopathy: From molecular mechanisms to therapeutic strategies. *J Mol Cell Cardiol*. 2012;52:1213-225.
34. Zhang Y, Shi J, Li Y, Wei L. Cardiomyocyte death in doxorubicin-induced cardiotoxicity. *Arch Immunol Ther Exp*. 2009;57(6):435-45.
35. Mele D, Nardoza M, Spallarossa P, Frassoldati A, Tocchetti CG, Cadeddu C, et al. Current views on anthracycline cardiotoxicity. *Heart Fail Rev*. 2016;21(5):621-34.
36. Lipshultz SE, Alvarez JA, Scully RE. Anthracycline associated cardiotoxicity in survivors

- of childhood cancer. *Heart*. 2008;94:525-33.
37. Dolci A, Dominici R, Cardinale D, Sandri MT, Panteghini M. Biochemical markers for prediction of chemotherapy induced cardiotoxicity. *Am J Clin Pathol*. 2008;130:688-695.
 38. Harake D, Franco VI, Henkel JM, Miller TL, Lipshultz SE. Cardiotoxicity in childhood cancer survivors: strategies for prevention and management. *Future Cardiol*. 2012;8(4):1-37.
 39. Sadurska E. Current view on anthracycline cardiotoxicity in childhood cancer survivors. *Pediatr Cardiol*. 2015;36(6):1112-9.
 40. Specchia G, Buquicchio C, Pansili N, De serio F, Liso V, Pastore D, et al. Monitoring of cardiac function on the basis of serum troponin I levels in patients with acute leukemia treated with anthracyclines. *J Lab Clin Med*. 2005;145:212-20.
 41. Maelle VG, Moniotte S, Brichard B. Cardiotoxicity of Childhood Cancer Treatment: Update and Current Knowledge on Long-term follow up. *Pediatr Hematol Oncol*. 2012;29(5):395-414.
 42. Cardinale D, Salvatici M, Sandri MT. Role of biomarkers in cardioncology. *Clin Chem Lab Med*. 2011;49(12):1937-48.
 43. Lipshultz SE, Cochran TR, Franco VI, Miller TL. Treatment-related cardiotoxicity in survivors of childhood cancer. *Nat Rev Clin Oncol*. 2013;10:697-710.
 44. Boyd A, Stoodley P, Richards D, Hui R, Harnett P, Vo K, et al. Anthracyclines induce early changes in left ventricular systolic and diastolic function: a single centre study. *Journals.pone*; 2017:1-11.
 45. Raj S, Franco VI, Lipshultz SE. Anthracycline-induced cardiotoxicity: A review of pathophysiology, diagnosis and treatment. *Curr Treat Cardio Med*. 2014;16(315):1-14.
 46. Rahman AM, Yusuf SW, Ewer MS. Anthracycline-induced cardiotoxicity and the cardiac-sparing effect of liposomal formulation. *Int J Nanomedicine*. 2007;2(4):567-83.
 47. Amikeng F, Ross CJ, Rassekh SR, Hwang S, Rieder MJ, Bhavsar AP, et al. Recommendations for genetic testing to reduce the incidence of anthracycline-induced cardiotoxicity. *Br J Clin Pharmacol*. 2016;82(3):683-95.
 48. Lipshultz SE, Miller TM, Scully RE, Lipsitz SR, Rifai N, Silverman LB. Changes in cardiac biomarkers during doxorubicin treatment of pediatric patients with high-risk acute lymphoblastic leukemia: associations with long term echocardiographic outcomes. *J Clin Oncol*. 2012;30 (10):1042-9.
 49. Lipshultz SE, Alvarez JA, Scully RE. Anthracycline associated cardiotoxicity in survivors of childhood cancer. *Heart*. 2008;94:525-33.
 50. Monsuez JJ. Detection and prevention of cardiac complications of cancer chemotherapy. *Arc Cardiovasc Dis*. 2012;205:593-604.
 51. McGowan JV, Chung R, Maulik A, Piotrowska I, Walker JM, Yellon DM. Anthracycline chemotherapy and cardiotoxicity. *Cardiovasc Drugs Ther*. 2017;31:63-75.
 52. Bahadir A, Kurucu N, Kadioglu M, Yenilmez E. The role of nitric oxide in doxorubicin-induced cardiotoxicity: Experimental study. *Turk J Hematol*. 2014;31:68-74.
 53. Bacchiani G, Cardinale D. Using biomarkers and early prophylactic treatment to prevent cardiotoxicity in cancer patients on chemotherapy. *Spring*. 2012;9(4):1-13.
 54. Katruka IA. Human cardiac troponin complex, structure and functions. *Biochemistry*. 2013;78(13):1447-65.
 55. Sasse S, Brand NJ, Kyprianou P. Troponin I gene expression during human cardiac development and in end stage heart failure. *Circ Res*. 1993;72:932-8.

56. Bhavsar PK, Brand NJ, Yacoub MH, Barton PJ. Isolation and characterization of the human cardiac troponin I gene (TNN13). *Genomics*.1996;35(1):11-23.
57. Howarth JW, Meller J, Solaro JR, Trehella J, Rosevear PR. Phosphorylation dependent conformational transition of the cardiac specific N-terminus of troponin I in cardiac troponin. *J Mol Biol*. 2007;373(3):706-22.
58. Colombo A, Sandri MT, Salvatici M, Cipolla CM, Cardinale D. Cardiac complications of chemotherapy: Role of biomarkers. *Curr Treat Cardio Med*. 2014;16(313):1-13.
59. Mavinkurve-Groothuis AM, Kapusta L, Nir A, Groot-Loonen J. The role of biomarkers in the early detection of anthracycline induced cardiotoxicity in children. *Pediatr Hematol Oncol*. 2008;25:655–64.
60. Horacek JM, Pudil R, Tichy M, Jebavy L, Strasova A, Ulrychova M, et al. Cardiac troponin I seems to be superior to cardiac troponin T in early detection of cardiac injury associated with anthracycline treatment. *Onkologie*. 2008;31(10):559-60.
61. Bassareo PP, Monte I, Romano C, Deidda M, Piras A, Cugusi L, et al. Cardiotoxicity from anthracycline and cardioprotection in paediatric cancer patients. *J Cardivasc Med*. 2016;17(suppl 1):e55-e63.
62. Sparano JA, Wolff AC, Brown D. Troponins for predicting cardiotoxicity from cancer therapy. *Lancet*. 2000;356:1947-8.
63. D'hooge J, Mertens LL. Ultrasound physics. Dalam: Lai WW, Mertens LL, Cohen MS, Geva T, penyunting. *Echocardiography in pediatric and congenital heart disease*. Oxford: John Wiley&Sons Ltd; 2016.h.3-18.
64. Park K M. *Pediatric cardiology for practitioners*. 5th Ed. Philadelphia: Elsevier; 2008:65-113.
65. Mertens LL, Friedberg MK. Systolic ventricular function. In: Lai WW, Mertens LL, Cohen MS, Geva T, editors. *Echocardiography in pediatric and congenital heart disease*. Oxford: John Wiley&Sons Ltd; 2016.p.96-131.
66. Mertens LL, Rigby ML, Harrowits ES, Anderson RH. Cross sectional echocardiographic and Doppler imaging. In: Andersons RH, Baker EJ, Penny DJ, Redington AN, Rigby ML, Wernovsky G, editors. *Pediatric cardiology*. 3rd Ed. Philadelphia. Elsevier. 2009.p.313-40
67. Geva T, Vandervelde ME. Imaging techniques: echocardiography, magnetic resonance imaging and computerized tomography. In: Keane JF, Lock JE, Flyer DC, editors. *NADAS'S Pediatric Cardiology*. 2nd Ed. Philadelphia. Elsevier. 2006. h.145-82.
68. Brunner M, Moeslinger T, Spieckerman PG. Echocardiography for teaching cardiac physiology in practical student courses. *Advan in Physiol Edu*. 1995;268:1-9.
69. Mondrowinduro P. Disfungsi diastolik ventrikel kiri pada pasien sirosis hati: proporsi, korelasi dan hubungan parameter fungsi diastolik dengan derajat disfungsi hati [tesis]. Jakarta: Fakultas Kedokteran Universitas Indonesia, 2014.
70. Mertens LL, Friedberg MK. Echocardiographic assessment of cardiac dimensions, cardiac function and valve function. In: Allen HD, Driscoll DJ, Shaddy RE, Feltes TF, editors. *Moss and Adam's heart disease in infants, children and adolescents including the fetus and young adult*. 8th Ed. Philadelphia: Lippincott Williams & Wilkins;2012.p.172-206.
71. Rahman MA. Fungsi sistolik dan diastolik ventrikel kiri pada anak dengan leukemia limfoblastik akut pasca terapi daunorubicin. *Saripediatri*. 2005;7(3):160-8.
72. Larussi D, Galderisi M, Ratti G, Tedesco MA, Indolfi P, Casale F, et al. Left ventricular systolic and diastolic function after anthracycline chemotherapy in childhood. *Clin.Cardiol*. 2001;24:663-9.

73. Cottin Y, Touzery C, Coudert B. Impairment of diastolic function during short-term anthracycline chemotherapy. *Br Heart J*.1995;73:61-4.
74. Stoodley PW, Richards DAB, Boyd A, Hui R, Harnett PR, Meikle SR, et al. Altered left ventricular longitudinal diastolic function correlates with reduced systolic function immediately after anthracycline chemotherapy. *Eur Heart J Cardiovasc Imaging*. 2013;14(3):228-34.
75. Serrano JM, Gonzalez I, Del Castillo S, Muniz J, Morales LJ, Moreno F, et al. Diastolic dysfunction following anthracycline-based chemotherapy in breast cancer patients: incidence and predictors. *Oncologist*.2015;20: 864-72.
76. Leandro J, Dyck J, Poppe D, Share R. Cardiac dysfunction late after cardiotoxic therapy for childhood cancer. *Am J Cardiol*. 1994;74:1152-6.
77. Steinherz LJ, Graham T, Hurwitz R. Guidelines for cardiac monitoring of children during and after anthracycline therapy: report of the cardiology committee of the children cancer study group. *Pediatrics*. 1992;89:943-9.
78. Agha H, Shalaby L, Attia W, Abdelmohsen G, Aziz OA, Rahman MYA. Early ventricular dysfunction after anthracycline chemotherapy in children. *Pediatr Cardiol*.2016;37(3):537-44.
79. Sukardi R. Penatalaksanaan terkini gagal jantung pada anak. Dalam: Putra ST, Djer MM, Roeslani RD, Endryarni B, Yuniar I, penyunting. *Management of pediatric heart disease for practitioners: from early detection to intervention*. Jakarta:Departemen Ilmu Kesehatan Anak FKUI-RSCM;200.h.40-63.
80. Nagueh SF, Smiseth OA, Appleton CP, Byrd BF, Dokainish H, Edvardsen et al. Recommendations for the Evaluation of Left Ventricular Diastolic Function by Echocardiography: An Update from the American Society of Echocardiography and the European Association of Cardiovascular Imaging. *J Am Soc Echocardiogr*.2016; 29: 277–314.
81. Sastoasmoro S, Ismael SI. *Dasar-dasar metodologi penelitian klinis*. Edisi ke-4. Jakarta. Sagung seto. 2011.h. 348-83.
82. Sari TT, Windiastuti E, Cempako GR, Devaera Y. Prognosis leukemia limfoblastik akut pada anak obes. *Sari Pediatri*. 2010; 12(1):58-62.
83. Wa'u DV, Mulatsih S, Murni IK. Profil jantung pasien akut limfoblastik leukemia anak yang mendapatkan terapi anthracycline. *Indones J Cancer*. 2017;11(1):15-20.
84. Wijayanti LP, Supriyadi E. Faktor prognostik dan kesintasan pasien leukemia limfoblastik akut anak di RSUP Dr. Sardjito, Yogyakarta, 2010-2015. *Indones J Cancer*. 2017;11(4):145-50.
85. Ariawati K, Windiastuti E, Gatot D. Toksisitas kemoterapi leukemia limfoblastik akut pada fase induksi dan profilaksis susunan saraf pusat dengan metotreksat 1 gram. *Sari Pediatri*. 2007;9(4):257-8.
86. Shafi A, Siddiqui N, Imtiaz S, Sajid MUD. Left ventricular systolic dysfunction predicted by early troponin I release after anthracycline based chemotherapy in breast cancer patients. *J Ayub Med Coll Abbottabad*. 2017;29(2):266-9.
87. Maniu DR, Blag C, Popa G, Bota M, Vlad C, Cainap C, et al. The role of biomarkers and echocardiography in the evaluation of cardiotoxicity risk in children treated for leukemia. *JBUON*. 2018;23(suppl 1): S122-31.
88. Handojo K, Sjakti HA, Yanuarso PB, Akib AAP. Fungsi sistolik dan diastolic jantung pada pasien anak dengan osteosarcoma yang mendapat terapi doksorubicin di RS Cipto

- Mangunkusumo. Sari Pediatri. 2014;16(3):149-56.
89. Sandri MT, Cardinale D, Zorzino L, Passerini R, Lentati P, Martinoni A, et al. Minor increases in plasma troponin I predict decreased left ventricular ejection fraction after high-dose chemotherapy. *Clin Chemist*. 2003;49(2):248-52.
 90. Cardinale D, Sandri MT, Martinoni A, Tricca A, Civelli M, Lamantia G, et al. Left ventricular dysfunction predicted by early troponin I release after high-dose chemotherapy. *J Am Coll Cardiol*. 2000;36:517-22.
 91. Nagueh SF, Appleton CP, Gillebert TC, Marino PN, Oh JK, Smiseth OA. Recommendations for the evaluation of left ventricular diastolic function by echocardiography. *J Am Soc Echocardiogr*. 2009;22(2):107-33.
 92. LeWinter MM, Osol G. Normal physiology of the cardiovascular system. In: Fuster V, Wayne A, O'Rourke R, editors. *Hurst's the heart*. 10th Ed. New York: McGraw Hill, 2001. p 63-4.
 93. Hutchison S. Principles of echocardiography and intracardiac echocardiography. Philadelphia:Elsevier Saunders;2012.
 94. Schmitt K, Tulzer G, Merl M, Aichborn A, Grillenberger A, Wiesinger G, et al. Early detection of doxorubicin and daunorubicin cardiotoxicity by echocardiography: diastolic versus systolic parameters. *Eur J Pediatr*. 1995;154:201-4.
 95. Dorup I, Levit G, Sullivan I, Sorensen K. Prospective longitudinal assessment of late anthracycline cardiotoxicity after childhood cancer: the role of diastolic function. *Heart*. 2004;90:1247-55.

