# Profil Klinis, Laboratoris, dan Tata Laksana Infeksi Sitomegalovirus pada Pasien Anak dengan Demam Neutropenia = Clinical, Laboratory, and Management Profile of Cytomegalovirus Infection in Pediatric with Febrile Neutropenia

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Abstrak

Latar Belakang: Infeksi sitomegalovirus (CMV) telah menjadi masalah besar secara global dengan prevalens yang tinggi. Demam neutropenia merupakan kegawatdaruratan anak di bidang onkologi karena dapat meningkatkan morbiditas dan mortalitas, salah satu penyebabnya yaitu infeksi CMV. Mengingat tingginya seroprevalens CMV di Indonesia yang dapat meningkatkan angka kematian pasien keganasan, maka penting untuk memahami profil klinis, laboratoris, dan tata laksana infeksi CMV pada demam neutropenia. Tujuan: Untuk mengetahui prevalens, karakteristik klinis, laboratoris dan tata laksana infeksi CMV pada pasien anak dengan demam neutropenia karena keganasan. Metode: Penelitian ini merupakan uji observasional secara prospektif. Subyek yang diteliti adalah seluruh pasien demam neutropenia usia 1 bulan-18 tahun yang dirawat di bangsal anak Rumah Sakit Cipto Mangunkusumo, Jakarta pada bulan Januari sampai dengan Mei 2024. Hasil: Terdapat 89 episode demam neutropenia yang memenuhi kriteria inklusi dan eksklusi, yang terjadi pada 71 pasien anak dengan median usia 6 tahun (5 bulan-16 tahun), lelaki 56,3%, dan tumor padat 53,5%. Kultur steril terbanyak yaitu darah (78,3%) dan urin (65,2%), dengan kultur positif terbanyak yaitu feses (100%), darah (21,7%), urin (34,8%), dan sputum (100%). Dari kultur yang positif, proporsi kuman terbanyak adalah Klebsiella pneumoniae (29%) dengan sensitivitas antibiotik tertinggi yaitu lini 1 gentamisin (50%), lini 2 sefoperazon sulbaktam (55,5%), dan lini 3 imipenem (72,2%). Terdapat 2 subyek dengan infeksi CMV berdasarkan PCR CMV dan peningkatan IgG 4 kali lipat dalam 4 minggu. Karekteristik klinis yang ditemukan yaitu demam neutropenia episode kedua, durasi demam 1,5 hari, suhu puncak demam 39,45oC, diare, muntah, pucat, dan perdarahan. Kedua subyek dengan status gizi baik. Karakteristik laboratoris yang ditemukan yaitu pansitopenia, peningkatan CRP, dan kultur yang negatif. Karakteristik tata laksana yang ditemukan yaitu pemberian antibiotik empiris, antijamur, dan antivirus valgansiklovir selama 14 hari. Kesimpulan: Prevalens infeksi CMV pada anak dengan demam neutropenia karena keganasan di RSCM sebesar 2,2%, dengan karakteristik klinis demam neutropenia episode kedua, durasi demam 1,5 hari, suhu puncak 39,45oC, gejala diare, muntah, pucat, dan perdarahan. Tidak terdapat karakteristik laboratoris dan tata laksana, tetapi ditemukan pansitopenia, peningkatan CRP, kultur negatif, dan pemberian valgansiklovir selama 14 hari. Hasil tambahan berupa proporsi kuman tertinggi pada pasien demam neutropenia yaitu Klebsiella pneumoniae dengan sensitivitas antibiotik tertinggi yaitu sefoperazon sulbaktam.

.....Background: Cytomegalovirus (CMV) infection has become a major problem globally with high prevalence. Neutropenic fever is a pediatric oncology emergency, increasing morbidity and mortality. CMV infection should be considered as a cause of neutropenic fever. Given the high CMV seroprevalence in Indonesia, which can increase cancer patient mortality, it is crucial to understand the clinical profile, laboratory findings, and management of CMV infection in neutropenic fever. Objective: To determine the prevalence, clinical, laboratory, and management characteristics of cytomegalovirus infection in pediatric

patients with neutropenic fever due to malignancy. Methods: This research was an observational study prospectively. The subjects were all neutropenic fever patients aged 1 month-18 years who were hospitalized in the Cipto Mangunkusumo Hospital (CMH) pediatric wards from January to Mei 2024. Results: There were 89 episodes of neutropenic fever that met the inclusion and exclusion criteria, found in 71 pediatric patients, with median age was 6 years old (5 months-16 years old), male 56.3%, and solid tumor 53.5%. Sterile results were found in blood (78.3%) and urine (65.2%) cultures. Positive cultures were found in feces (100%), blood (21.7%), urine (34.8%), and sputum (100%). Klebsiella pneumoniae (29%) was the highest proportion of positive cultures with the highest sensitivity antibiotic in the first line was gentamicin (50%), second line cefoperazone sulbactam (55.5%), and third line imipenem (72.2%). Two subjects were CMV infection based on PCR CMV and IgG increasing 4 times in 4 weeks. Clinical characteristics were second episode of neutropenic fever, duration of fever 1.5 days, peak temperature 39.45oC, diarrhea, vomiting, pale, bleeding, and both had good nutritional status. Laboratory characteristics showed pancytopenia, increasing CRP, and negative culture. Management characteristics included empirical antibiotic, antifungal, and antiviral valganciclovir for 14 days. Conclusion: The prevalence of CMV infection in neutropenic fever at CMH was 2.2%. Clinical characteristics were second episode of neutropenic fever, duration of fever 1.5 days, peak temperature 39.45oC, diarrhea, vomiting, pale, and bleeding. There is no laboratory and management characteristics, but found pancytopenia, increased CRP, negative culture, and administering valganciclovir for 14 days. The additional result was Klebsiella pneumoniae as the highest microbe with the highest antibiotic sensitivity was cefoperazone sulbactam.