Kadar procalcitonin pada pasien kanker paru dengan pneumonia = Serum procalcitonin level in lung cancer patient with pneumonia

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Abstrak

Latar belakang: Pneumonia menjadi penyebab infeksi tersering yang meningkatkan mortalitas dan morbiditas pasien kanker paru. Serum procalcitonin (PCT) merupakan penanda hayati yang sering digunakan untuk mendiagnosis infeksi terutama pneumonia. Nilai titik potong kadar PCT untuk mendiagnosis pneumonia pada kanker paru sampai saat ini belum diketahui. Tujuan penelitian ini untuk mengetahui peran PCT dalam diagnosis pneumonia pada pasien kanker paru.
Metode: Penelitian uji diagnostik dengan desain potong lintang terhadap pasien kanker paru dan terduga pneumonia di Instalasi Gawat Darurat dan ruang perawatan paru RSUP Persahabatan Jakarta bulan Agustus-Oktober 2018. Pneumonia ditegakkan berdasarkan panduan pneumonia yang dikeluarkan oleh Persatuan Dokter Paru Indonesia. Pemeriksaan PCT dilakukan untuk mengetahui perbedaan kadar PCT pada kanker paru dengan dan tanpa pneumonia serta dilakukan analisis untuk menentukan titik potong optimal kadar PCT untuk diagnosis pneumonia pada pasien kanker paru dengan menggunakan ROC.
Hasil: Sebanyak 60 pasien kanker paru diikutsertakan. Pasien kanker paru dengan pneumonia sebanyak 31 orang (51,7%) dengan karakteristik laki-laki sebanyak 77,4% dan rerata usia 54,68±10,59 tahun, jenis kanker terbanyak adenokarsinoma (51,6%), stage IV (83,9%), skala tampilan 3 (45,2%), status gizi kurang (45,2%), dan bekas perokok (54,8%). Terdapat perbedaan bermakna median kadar PCT pasien kanker paru dengan pneumonia dibandingkan tanpa pneumonia [1,81 (0,08-200)Î¼g/L berbanding 0,30 (0,05-3,67) Î¼g/L;p<0,001]. Terdapat peningkatan kadar PCT pasien kanker paru dengan metastasis, komponen neuroendokrin, jumlah metastasis 2, metastasis hepar meskipun hasil ini tidak bermakna secara statistik. Serum PCT berperan lebih baik dibandingkan kadar leukosit dan hitung jenis neutrofil untuk membedakan antara pneumonia dan bukan pneumonia pada pasien kanker paru (p<0,001, p=0,297; p=0,290). Serum PCT memiliki akurasi yang baik dengan AUC 0,829 (IK 95% 0,722-0,935]. Titik potong optimal kadar PCT untuk mendiagnosis pneumonia pada pasien kanker paru adalah 0,65 Î¼g/L dengan sensitivitas 77,4% dan spesifisitas 79,3%.
Kesimpulan: Kadar PCT pada pasien kanker paru dengan pneumonia lebih tinggi dibandingkan tanpa pneumonia. Titik potong optimal kadar PCT untuk diagnosis pneumonia pada kanker paru adalah 0,65 Î¼g/L.
<hr /><i>Background: Pneumonia accounts for higher morbidity and mortality than any other infections in lung cancer patients. Procalcitonin (PCT) is a clinical biomarker to diagnose infection including pneumonia. Cut off point to diagnose pneumonia in lung cancer patient still unclear. The study aims to determine the roleof PCT in diagnosing pneumonia in lung cancer patients.
Methods: Diagnostic test with cross sectional design was conducted in lung cancer patients with suspected pneumonia admitted to emergency and pulmonary ward of Persahabatan Hospital Jakarta, Indonesia between August – October 2018. A diagnosis of pneumonia was complying to the

guideline provided by the Indonesian Society of Respirology. Serum PCT level (sPCT) between lung cancer patients with and without pneumonia was measured followed by statistical analysis. The optimal sPCT cut off point to diagnose pneumonia in lung cancer was determined using ROC curve.
Result: From sixty patients, lung cancer patients presented with pneumonia was found in 31 patients (51.7%) with mean age 54.68±10.59 yo, which 77.4% were males, 51.6% were adenocarcinomas, 83.9% were stage IV cases, 45.2% were patients with ECOG performance status of 3, 45.2% were underweight and 54.8% were ex-smokers. The sPCT were significantly higher in lung cancer with pneumonia compared to those without pneumonia [1.81 (0.08-200)Î¼g/L vs 0.30 (0.05-3.67) Î¼g/L; p<0.001]. The sPCT were higher in lung cancer accompanied with metastasis, neuroendocrine component, 2 metastatic sites and liver metastatic, although these results were not statistically significant. The sPCT showed a better performance in differentiating pneumonia in lung cancer compared to leucocyte count and absolute neutrophil count (p <0.001, p=0.297; p=0.290, respectively). The sPCT showed a good accuracy to diagnose pneumonia in lung cancer with AUC 0.829 (CI 95% 0.722-0.935). The optimal cut off point of sPCT to diagnose pneumonia in lung cancer was 0.65 Î¼g/L with 77.4% sensitivity and 79,3% specificity.
Conclusion: The sPCT was significantly higher in lung cancer with pneumonia than those without pneumonia. The optimal cut off point of sPCT to diagnose pneumonia in lung cancer was 0.65 Î¼g/L.