Analisis cost effectiveness terapi antibiotik empirik berdasarkan hasil sensitivitas antibiotik pada pasien pneumonia komunitas rawat inap di RSU Dr. Soetomo, Surabaya = Cost effectiveness analysis of empirical antibiotics use under antimicrobial susceptibility for hospitalized community pneumonia in Dr. Soetomo Hospital Indonesia

Purba, Abdul Khairul Rizki, author

Abstrak

[ABSTRAK
 Latar belakang:
Penggunaan antibiotik empirik pada tata laksana penyakit infeksi, misalnya pneumonia komunitas, sebaiknya mempertimbangkan bukti kemanfaatan klinis dan hasil sensitivitas antibiotik pada suatu institusi pelayanan kesehatan. Penggunaan antibiotik yang tidak tepat dapat menyebabkan kegagalan terapi, resistensi kuman, komplikasi dan kematian. Biaya yang tinggi juga merupakan keluaran langsung dari penggunaan antibiotik namun biasanya tidak dilaporkan. Oleh sebab itu, analisis terhadap biaya, keluaran klinis, dan pola sensitivitas kuman menjadi sangat penting untuk menentukan antibiotik empirik pada terapi pneumonia komunitas.
Tujuan:
Tujuan penelitian ini adalah menentukan antibiotik yang paling efektif dari aspek biaya dan keluaran klinis pada tata laksana pneumonia komunitas.
Metode:
Penelitian ini dilakukan secara retrospektif pada pasien pneumonia komunitas di RSU Dr. Soetomo Surabaya sejak 1 Januari sampai 31 Desember 2013. Analisis cost effectiveness digunakan untuk evaluasi farmakoekonomi berdasarkan perbaikan klinis hari ke-5, mortalitas, dan biaya total.
Hasil:
Sebanyak 434 pasien dirawat di RSU Dr. Soetomo dan menerima antibiotik empirik. Sebanyak 200 pasien dikelompokkan menjadi 4 grup: seftriakson(35%), seftazidim (26%), levofloksasin (14,5%), dan kombinasi seftazidim dan levofloksasin (24,5%). Perbaikan klinis hari ke-5 tertinggi adalah kelompok yang diberi seftazidim sekitar 67,3%. Seftriakson merupakan antibiotik empirik yang paling efektif dengan ACER 505.585,3 untuk perbaikan klinis hari ke-5 namun hasil sensitivitas kuman menunjukkan bahwa seftazidim masih lebih sensitif dari pada seftriakson (61,1% vs 38,5%) dengan nilai ACER seftazidim sebesar 763.322. Kombinasi seftazidim dan levofloksasin digunakan untuk pasien dengan klinis yang buruk (PSI: 84,1+28,6) dan berdampak pada tingginya biaya pengobatan (ACER 23685450.5).
Kesimpulan:
Seftazidim dapat dipertimbangkan sebagai antibiotik empirik yang efektif dan efisien dalam tata laksana pneumonia komunitas yang dirawat di rumah sakit. Kombinasi seftazidim dan levofloksasin juga dapat dipertimbangkan untuk pasien pneumonia komunitas yang

berat.ABSTRACT Introduction:
Empirical antibiotic use in the management of infectious disease such as community pneumonia should be considered based on evidence of clinical effectiveness and institutional antibiotic sensitivity results. Inappropriate antibiotic leads to failure in treatment, microbial resistance, complications and mortality. In addition, high cost is one of the direct impact of this condition that is usually under-reported. Thus, analysis of cost and clinical outcome, besides antibiotic sensitivity pattern, should be performed to find effective empirical antibiotic in the treatment in community acquired pneumonia (CAP).
Aim:
The objective of the study was to determine the most effective antibiotic in cost and clinical outcome in CAP.
Methodology:
This study has been conducted retrospectively in patient with CAP in Dr. Soetomo Hospital Surabaya from 1 January to 31 December 2013. Cost effectiveness analysis was used to evaluate pharmacoeconomic outcomes based on clinical improvement in day 5, mortality, and total cost.
Results:
There were 434 hospitalized patients with pneumonia that received empirical antibiotic. Two hundred patients were selected based on inclusion and exclusion criteria of this study. Subjects were categorized into 4 groups: ceftriaxone (35%), ceftazidim (26%), levofloxacin (14.5%), and combination ceftazidim and levofloxacin (24.5%). Clinical improvement in day 5 and clinical remission was assessed with highest number in ceftazidim group, roughly 67.3% and 76,9% respectively. Furthermore, ceftriaxone was the most effective one with ACER 505585.3 for day 5 outcome. However, the ceftazidim sensitivity was higher than ceftriaxone (61,1% vs 38,5%), while ceftazidime was in the one second position with ACER 763322. The combination ceftazidim and levofloxacin particularly used in worse clinical symptom (PSI: 84,1+28,6) and lead to the highest cost with ACER 23685450.5.
Conclusion:
Ceftazidim should be considered as effective and efficient empirical antibiotic in the management of hospitalized CAP. However, combination ceftazidim and levofloxacin is also could be effective to improve clinical sign for particular patient even with severe CAP. , Introduction:
Empirical antibiotic use in the management of infectious disease such as community pneumonia should be considered based on evidence of clinical effectiveness and institutional antibiotic sensitivity results. Inappropriate antibiotic leads to failure in treatment, microbial resistance, complications and mortality. In addition, high cost is one of the direct impact of this condition that is usually under-reported. Thus, analysis of cost and clinical outcome, besides antibiotic sensitivity pattern, should be performed to find effective empirical antibiotic in the treatment in community acquired pneumonia (CAP).
Aim:

The objective of the study was to determine the most effective antibiotic in cost and clinical outcome in CAP.
Methodology:
This study has been conducted retrospectively in patient with CAP in Dr. Soetomo Hospital Surabaya from 1 January to 31 December 2013. Cost effectiveness analysis was used to evaluate pharmacoeconomic outcomes based on clinical improvement in day 5, mortality, and total cost.
Results:
There were 434 hospitalized patients with pneumonia that received empirical antibiotic. Two hundred patients were selected based on inclusion and exclusion criteria of this study. Subjects were categorized into 4 groups: ceftriaxone (35%), ceftazidim (26%), levofloxacin (14.5%), and combination ceftazidim and levofloxacin (24.5%). Clinical improvement in day 5 and clinical remission was assessed with highest number in ceftazidim group, roughly 67.3% and 76,9% respectively. Furthermore, ceftriaxone was the most effective one with ACER 505585.3 for day 5 outcome. However, the ceftazidim sensitivity was higher than ceftriaxone (61,1% vs 38,5%), while ceftazidime was in the one second position with ACER 763322. The combination ceftazidim and levofloxacin particularly used in worse clinical symptom (PSI: 84,1+28,6) and lead to the highest cost with ACER 23685450.5.
Conclusion:
Ceftazidim should be considered as effective and efficient empirical antibiotic in the management of hospitalized CAP. However, combination ceftazidim and levofloxacin is also could be effective to improve clinical sign for particular patient even with severe CAP.]