Evaluation of antibiotic use in pneumonia treatment of pediatric & geriatric inpatients in Sultan Agung Islamic Hospital Semarang

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ABSTRACT

Pneumonia is a lung inflammatory disease where the alveoli swell and there is an occurs fluid accumulation caused most by bacteria. Antibiotic is a first-line drug for pneumonia therapy. The purpose of this study aimed to determine the antibiotic use in the treatment of pneumonia on geriatric and pediatric inpatients. A retrospective design and purposive sampling technique were used to determine its samples. The data were based on the patient's medical record in the Inpatient Installation of Sultan Agung Hospital in Semarang in the period January-December 2018. There were 80 patients, 22 pediatric and 58 geriatric it that periode. The most antibiotic used in geriatric patients was ceftriaxone and levofloxacin as a single drug and in pediatric patients was cefotaxime as a single drug in and in combination with other antibiotics. The length of stay of the pediatric patients was 4.7±1.2 days and geriatric patients was 3.8±1.3 days. The difference between them was significant, p<0.01

Conclusion: antibiotic use in geriatric inpatients were more effective than in pediatric according to its length of stay

INTRODUCTION

Pneumonia is a common and serious disease, with high rates of morbidity and mortality. Antibiotic is a first-line drug for pneumonia therapy. The recommendations for antibiotic choice are different based on the severity of the disease, distinguishing an antibiotic scheme. The purpose of this study aimed to determine the difference of antibiotic use in the treatment of pneumonia on geriatric and pediatric patients.

This study had already approved by the Health Research Ethics Committee of STIFAR YAYASAN PHARMASI SEMARANG, with reference No: 038/CN-KEPK/STIFAR/EC/XI/2019. Sampling was done by purposive sampling. Data collection was carried out retrospectively according to the medical record data of pneumonia paediatric (<5 years) and geriatrics (>60 years) at the Inpatient Installation of Sultan Agung Islamic Hospital Semarang for the period January-December 2018

MATERIALS AND METHODS

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RESULT

<table>
<thead>
<tr>
<th>Antibiotic Therapy</th>
<th>Name of drugs</th>
<th>Pediatric</th>
<th>Pediatric Percentage (%)</th>
<th>Geriatric</th>
<th>Geriatric Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceftriaxone</td>
<td>Ceftriaxone</td>
<td>10/14</td>
<td>71.42</td>
<td>8/18</td>
<td>44.40</td>
</tr>
<tr>
<td>Levofloxacin</td>
<td>Levofloxacin</td>
<td>10/14</td>
<td>71.42</td>
<td>8/18</td>
<td>44.40</td>
</tr>
<tr>
<td>Cefotaxine + Ceftriaxone</td>
<td>Ceftriaxone + Cefotaxine</td>
<td>10/14</td>
<td>71.42</td>
<td>8/18</td>
<td>44.40</td>
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</tr>
</tbody>
</table>

DISCUSSION

The use of cefotaxime is recommended for the treatment of pneumonia in paediatric patients (Sucipta, 2012). The most single antibiotic used in geriatric patients was ceftriaxone (46.55%) and levofloxacin (31.03%). The Infectious Diseases Society of America (IDSA) guidelines recommend that either respiratory quinolone or beta-lactam plus azithromycin to be used as a first line therapy for Community Acquired Pneumonia; Ceftriaxone is one of the recommended regimens among beta-lactam antibiotics (Postma, 2015). Appropriate antibiotic use, in hospitalized adult patients with a suspected bacterial infection appears to be associated with a shorter LOS and therefore positively contributes to patient outcome and healthcare costs (Bosch, 2017). The mean LOS in geriatric patients (3.8±1.3 days) is shorter than in paediatric patients (4.7±1.2days). The difference between them was significant, p<0.01

CONCLUSION

The antibiotic used for pneumonia therapy in Sultan Agung Islamic Hospital is rational and its more effective in geriatric compared with in paediatric patients

REFERENCES

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