Effect of Corticosteroids on the clinical course of severe Community-Acquired Pneumonia.

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I. Introduction

- Community-Acquired Pneumonia (CAP) is a common and serious infectious disease associated with high morbidity and mortality.
- It is the sixth leading cause of death and the most common infectious cause of death worldwide.
- Despite effective antibiotic therapy, about 12–36% patients admitted to the intensive care unit (ICU) with severe CAP die within a short time.

II. Materials And Methods

- Study design: Hospital based Cross sectional study.
- Study setting: Government Hospital for chest and communicable diseases, Visakhapatnam, Andhra Pradesh.
- Sample size: A total of 60 patients were enrolled based on the inclusion and exclusion criteria.

Inclusion criteria:
1) Clinical symptoms suggestive of community acquired pneumonia: Acute onset of cough (with or without sputum, fever, pleuritic chest pain, dyspnea)
2) Consolidation on chest radiograph.
3) Age 18 years or older.

Exclusion criteria: Presence of severe immunosuppression (HIV infection, use of immunosuppressants), malignancy, pregnancy or Breast feeding

- The Antibiotic Alone group (n=30) given antibiotic injections for 5 days.
- The steroid with Antibiotic group (n=30) given injection Methyl prednisolone 1mg/kg body weight for 5 days along with antibiotics.

III. Results
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**CO MORBIDITIES**

<table>
<thead>
<tr>
<th>Co-morbidities</th>
<th>Total No of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIABETES</td>
<td>30(50%)</td>
</tr>
<tr>
<td>HYPERTENSION</td>
<td>10(20%)</td>
</tr>
<tr>
<td>BRONCHIAL ASTHMA</td>
<td>20(30%)</td>
</tr>
</tbody>
</table>

**SYMPTOMS**

- Cough
- Dyspnea
- Sputum
- Fever

**SIGNS**

- Tachypnea
- Tachycardia
- Temperature

**CHEST X RAY FINDINGS**

<table>
<thead>
<tr>
<th>X Ray Findings</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>U/L UPPER LOBE</td>
<td>25%</td>
</tr>
<tr>
<td>U/L LOWER LOBE</td>
<td>20%</td>
</tr>
<tr>
<td>B/L UPPER LOBE</td>
<td>20%</td>
</tr>
<tr>
<td>B/L LOWER LOBE</td>
<td>35%</td>
</tr>
</tbody>
</table>
### Total Length of Hospital Stay

<table>
<thead>
<tr>
<th>Length of Hospital Stay</th>
<th>Antibiotic Group Only (N=30)</th>
<th>Steroid Antibiotic Group (N=30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-9 Days</td>
<td>10% (n=5)</td>
<td>80% (n=20)</td>
</tr>
<tr>
<td>11-13 Days</td>
<td>90% (n=25)</td>
<td>20% (n=10)</td>
</tr>
</tbody>
</table>

### Length of ICU Stay

<table>
<thead>
<tr>
<th>Length of ICU Stay</th>
<th>Antibiotic Group Only (N=30)</th>
<th>Steroid Antibiotic Group (N=30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-7 Days</td>
<td>10% (n=5)</td>
<td>90% (n=25)</td>
</tr>
<tr>
<td>8-10 Days</td>
<td>90% (n=25)</td>
<td>10% (n=5)</td>
</tr>
</tbody>
</table>

### Duration of Non Invasive Ventilation

<table>
<thead>
<tr>
<th>Duration</th>
<th>Antibiotics Group (N=30)</th>
<th>Steroid with Antibiotic Group (N=30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 to 7 Days</td>
<td>10% (n=10)</td>
<td>95% (n=25)</td>
</tr>
<tr>
<td>10 to 13 Days</td>
<td>90% (n=25)</td>
<td>5% (n=5)</td>
</tr>
</tbody>
</table>
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IV. Discussion

- Community acquired pneumonia more common in age group 50-69 years (40%).
- Community Acquired pneumonia clinically presents with Expectoration (70%), Fever (70%), Breathlessness (65%), Chest pain (35%) & Haemoptysis (10%).
- Signs elicited in severe CAP are Tachpnoea (80%), Temperature (70%), Tachycardia (60%), Hypotension (25%).
- In my study community acquired pneumonia commonly affects upper lobe unilateral (25%), Bilateral lower lobe (35%).
- In my study Total length of hospital stay in steroid group is 7-9 days (80%), in Antibiotic group 11-13 days (90%).
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- Length of ICU stay in Steroid with Antibiotic group is 5-7 days (90%), in Antibiotic group 8-10 days (90%) in our study.
- Duration of Non invasive ventilation is 5-7 days (95%) in Steroid with Antibiotic group, 10-13 days (90%) in Antibiotic group.
- Complications like ARDS, Septic shock, parapneumonic effusions more common in Antibiotic group compared to Steroid group in my study.
- Mortality rate 12% in Antibiotic alone group, 2% in Steroid with Antibiotic group.

V. Conclusion

- The Length of hospital stay in severe Community acquired pneumonia treated with Steroids with Antibiotics is low compared to Antibiotics alone.
- The Length of ICU stay Community acquired pneumonia treated with Steroids with Antibiotics is low compared to Antibiotics alone.
- Complications like ARDS, Septic shock more common in Antibiotic group in our study.
- Duration of Noninvasive ventilation is low in Steroid with Antibiotics group compared to Antibiotic group only in severe Community Acquired pneumonia.
- Mortality rate is low in Steroid with Antibiotics group compared to Antibiotic group in our study.

References