

Clinical, Bacteriological and Radiological Study of Community Acquired Pneumonia

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Abstract: A prospective clinical study consisting of 50 Community Acquired Pneumonia (CAP) patients is undertaken to investigate the magnitude and pattern of clinical, radiological and bacteriological presentation. Among the cases of CAP which were admitted based on Indian Chest Society/National College of Chest Physician (ICS/NCCP) recommendations, 50 cases were selected and studied. Detailed analysis of history, clinical, bacteriological and radiological examination was done. The incidence of CAP was most common in men with the most common presentation being fever and productive cough.

Keywords: Community Acquired Pneumonia, ICS/NCCP recommendations, fever, productive cough, aerobic culture, consolidation.

INTRODUCTION

Pneumonia is an acute inflammation of the pulmonary parenchyma that can be caused by various infective and non-infective origins, presenting with physical and radiological features compatible with pulmonary consolidation of a part or parts of one or both lungs.[1] Pneumonia signifies a pulmonary inflammatory process. The most significant and striking feature of which is consolidation [2]. Community acquired pneumonia is an acute illness acquired in the community with symptoms suggestive of LRTI.

Together with presence of a chest radiograph of intra pulmonary shadowing which is likely to be new and has no clear alternative cause. Pneumonia is one of the leading causes of death and morbidity, both in developing and developed countries and one of the commonest cause (10%) of hospitalization in adult and children [3].

- In the study done by Jain S K *et al.* [4] concluded that streptococcus pneumoniae was the most common pathogen. Age, smoking and underlying co morbid conditions especially COPD were significantly associated with the development of CAP. Radiographic changes usually cannot be used to distinguish bacterial from the nonbacterial pneumonia.
- In the study done by Madhulatha CK S *et al.* [5] concluded that the incidence of CAP is more with advancing age and associated risk factors like smoking, COPD and diabetes. Etiological agents cannot be identified in many cases because of prior

use of antibiotics, inappropriate sputum production and non-productive cough.

OBJECTIVES

To study the mode of presentation .To study clinical, bacteriological and radiological features of CAP. To study management and complications

MATERIALS AND METHODS

A prospective cross sectional study conducted on 50 patients admitted to Govt CD & TB hospital, Hanmakonda. To study the Clinical, bacteriological and radiological Study of community acquired pneumonia, management and complications. All the patients were

subjected for detailed clinical examination to make a provisional diagnosis of Community Acquired Pneumonia (CAP) based on the Joint ICS/NCCP recommendations. All Patients were evaluated with CBP, Sputum for Gram's stain, AFB, Aerobic culture and drug sensitivity and chest X-ray PA view. Ethical clearance was obtained from Kakatiya Medical College Ethical Committee.

Inclusion criteria

- All adult patients of both genders, who are recently diagnosed as Community Acquired Pneumonia (CAP) based on Joint ICS/NCCP recommendations.
- All adults 18 years and above.
- Patient presented with acute onset of fever associated chills and rigors.
- Patient having cough with expectoration.
- Chest pain and breathlessness.
- Radio logically suggestive of consolidation.

Exclusion Criteria

- Patients with Hospital Acquired Pneumonia.
- Patients with aspiration pneumonia.
- HIV positive patients.

RESULTS AND DISCUSSION

- The age group in our study varied from 18-80 years, of this 56% were above 50years the incidence of CAP were most common in men (80%) compared to women (20%)
- The commonest presenting symptoms are fever (100%), cough (100%), expectoration (100%), other symptoms include dyspnoea (52%), and chest pain (60%).
- The respiratory signs include bronchial breath sounds (76%), increased VF & VR (80%), and presence of whispering pectoriloquy (60%)
- The hematological value showed neutrophil leucocytosis (53.52%) other parameters are within normal limits.
- The sputum examination showed 58% Grams +, 34% Gram – and 8.0% were mixed.
- The Sputum culture showed 40% streptococcal, 10% staphylococcus aureus, 12% pseudomonas, 12% Klebsiella, 8.0 % mixed and 16% patients had no growth.
- Radiology showed preponderance of the rt. lung involvement and rt. lower lobe accounting for about 40 %.
- All patients initially started on empirical treatment and then appropriate antibiotics according to culture sensitivity were given.
- 3 patients developed lung abscess, recovered with antibiotics, 4 patients developed minimal pleural

effusion not amenable for aspiration, improved with antibiotics.

- 2 patients developed septic shock treated with vasopressors, fluids and antibiotics and they improved. 5 patients who improved clinically but not radio logically were followed up further, who showed radiological improvement during the course of follow up.
- Prognosis is good in this present study.
- No mortality encountered in present study. Common predisposing factors for CAP in our study are smoking, alcoholism, COPD and old age. Streptococcus pneumonia is the most common aetiology for CAP in our area. Chest x ray is an important early investigation for diagnosis as most of the patients presented with lobar consolidation. Our observations will be useful to monitor the trends of CAP in the population of the region and will help the physicians to start rational empirical treatment for patients with CAP.

CONCLUSION

Common predisposing factors for CAP in our area are smoking, alcoholism, COPD and old age. Streptococcus pneumonia is the most common etiology for CAP in this area. Chest x ray is an important early investigation for diagnosis as most of the patients presented with lobar consolidation. Our observations will be useful to monitor the trends of CAP in the population of the region and will help the physicians to start rational empirical treatment for patients with CAP.

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