Original Research Paper

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General Medicine

CLINICAL PROFILE, PROGNOSIS AND OUTCOME OF PNEUMONIA PATIENTS

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KEYWORDS :

INTRODUCTION:

Pneumonia is a common lung infection characterized by collection of pus and other fluids in the lung air sacs (alveoli). Lung air sacs are structures that help in the exchange of oxygen and carbon dioxide. Collection of pus in them makes breathing difficult. Pneumonia can be caused by many kinds of microorganisms (germs) including bacteria, viruses, fungi or parasites. Pneumonia is a frequently observed, costly health issue causing significant morbidity and mortality. The incidence of pneumonia requiring hospitalization is about 25?30 cases per 10,000adults, constitutes the seventh most frequent cause of all-cause death. Among infectious diseases, pneumonia is the most frequent cause of hospitalization and mortality in industrialized countries.

In hospitalized patients, the mortality rate from pneumonia is around 10%. However, this rate varies depending on the hospital unit and the prognosis is worse for patients requiring treatment in an intensive care unit (ICU). A large number of studies focus on the causal link between mortality and pneumonia, most of them analyzing in-hospital and short-term mortality. Fewer studies, however, have focused on the association between pneumonia and long-term mortality. At follow-up, pneumonia patients have displayed lower rates of survival and more frequent all-cause hospitalization, emergency department admissions and pneumonia-related visits compared to age and gender-matched control subjects without pneumonia. One-year mortality rate for patients with pneumonia is 17-40%, with increasing rates in the longer-term, independent of demographics and comorbid conditions. Long-term prognostic factors to be considered in pneumonia include advanced age, male gender, black race, health-care associated pneumonia, and chronic comorbid illnesses. only a few systematic data evaluating long-term outcomes for these patients have been reported.

AIM AND OBJECTIVES:

AIM

- To study Etiological profile in patients with Pneumonia.
- To Study of clinical profile, radiological profile, in hospital outcome in Pneumonia of different
- etiology.
- To study the outcome of Pneumonia patients related to age and gender.

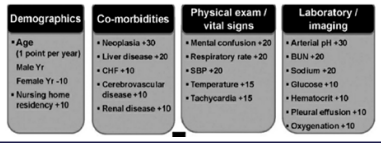
Objectives:

1) To find the age group and gender in which it is common.
2) To find the correlation between etiological factors and disease progression.
3) To find the prognosis and outcome with patients of pneumonia

METHODOLOGY:

Study type: Prospective clinical observational study in January 2019 to july 2019 in Adult patients admitted to Department of Medicine in ICU who were diagnosed as community acquired pneumonia at admission. Study done on basis of Pneumonia Sevearity Index Score.

Pneumonia sevearity index-



Inclusion criteria:

1. Age ≥ 18 years.
2. Community acquired pneumonia, defined as:
   A new or progressive infiltrate on a chest X-ray
   AND leucocytosis, high rectal temperature, cough with expectoration
3. Patients who give consent
4. Patients admitted in lg hospital
5. Patients who age more than 18 year

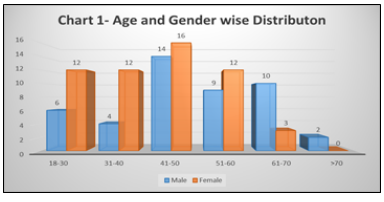
Exclusion Criteria:

1) Patient not willing to give consent
2) Patient younger than 18 years
3) Hospital acquired Pneumonia
4) Neutropenic patient

RESULTS:

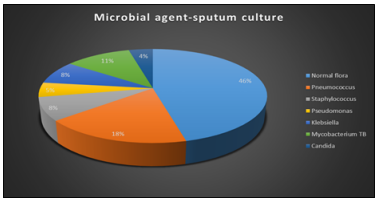
1) Age and Gender vise Distribution

The most common age group affected in community acquired pneumonia is 41-50. Females are more commonly infected. In this study 45% Male and 55% Female patients were enrolled.



2) Etiological agents responsible for pneumonia

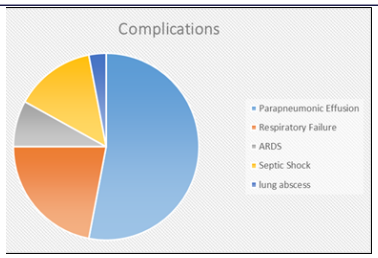
Most commom cause of community acquired pneumonia according to sputum culture is Normal commensals (46%), followed by Pneumococcus (18%) and Mycobacterium Tuberculosis(11%).



3) Complications related to pneumonia

Only 24% patients suffered from complications of pneumonia. Para pneumonic effusion is most common complication (53%), followed by Respiratory failure (22%), Septic shock (14%) and Acute Respiratory Distress Syndrome (8%). Lung abscess is least common complication occurred in 3% patients.

Complications	Patients affected	Percentage
Para pneumonic Effusion	19	53%
Respiratory Failure	8	22%
ARDS	3	8%
Septic Shock	5	14%
Lung abscess	1	3%



4) Outcome of Patients:

92% patients improved with significant treatment. 8% patients died despite of higher antibiotics and ventilatory support. 18% patients need Mechanical Ventilation, out of which 6% needs invasive ventilator support.

Total patients	**100%**
Improved patients	92%
Died	8%
Mechanical Ventilation Needed	18%
Invasive	6%
Non-invasive	12%

5) Comorbidities associated with Pneumonia

Most common comorbidities associated with pneumonia is COPD(40%), followed by Diabetes (23%), HTN (20%), IHD(13%), CVA (2%), GTCS (1%) and Chronic liver disease (1%).

Table-Outcome realted to Pneumonia Sevearity Index:

Outcome related to PSI Score	CLASS I	CLASS II	CLASS III	CLASS IV	CLASS V
Oxygen needed	29.40%	12%	35%	44.40%	50%
Mechanical Ventilation needed			20%	30%	50%
Complications	11.70%	25%	30%	27.70%	100%
Death		3.50%	15%	22.20%	50%

6) Outcome related to Pneumonia sevearity index(PSI) Score

According to sevearity, patient outcome detoriates. Calss 1 patient with no comorbidities, improve faster and better and has less complications. Class IV and class V has maximum chances of complications, need for mechanical ventilation and mortality respectively.

DISCUSSION:

In our study, it is stated that pneumonia is more common in female as compared to male. Is is more common in 41-50 years of age in both gender. Females are more affected in early age due to allergic history. Male infected with community acquired pneumonia are more prone to complications. According to sputum culture, Noraml commensals of oral cavity are most common microbial agent responsible for community acquired pneumonia. Mycobacterium Tuberculosis also plays major part(11%)in Patients presented with pneumonia. Least common are pseudomonas(5%) and candida(4%).

Sevearity in patients presentedwith pneumonia can be cound on bases of CURB-65, and Pneumonia Sevearity Index(PSI). Complications and mortality in pneumonia are directly related to PSI class pf pneumonia. Only 24% of patient suffered from complications, Para-pneumonic effusion is most common complications, but most easily relived with effective treatment. 92% of community acquired pneumonia are treated significantly with effective treatment and discharged. Around 18% of patient needed mechanical ventilation, in them only 6% patient needed invasive ventilatory support. Patient who need mechanical ventilation mostly falls in PSI Class IV and Class V.

Patients present with pneumonia are more commonly associated with Chronic Obstructive Pulmonary Disease. In young females, Ashtma and allergic bronchitis are more common. Old age male with history of smoking are more commly on treatment for Chronic Bronchitis and Emphysema. Other comorbidities are also associated with pneumonia due to high prevalence of Hypertension, Diabetes, Ishemic Heart Disease, Cerebrovascular Accident, Convulsion and Chronic liver disease. Tobacco chewing and smoking are most common risk factors associated with Pneumonia.

CONCLUSION:

Normal commensals of oral cavity are most common organisms responsible for Pneumonia. Middle aged men with COPD are most common to get infected and complicated with parapneumonic effusion. PSI CLASS IV and V are associated with high mortality and complications.

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