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Original Research

Assessment of cases of community acquired pneumonia

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ABSTRACT:

Background: Community-acquired pneumonia (CAP) is the term used to describe an acute infection of the lungs that develops outside the hospital setting in a patient who has not been recently hospitalized. The present study was conducted to assess cases of community acquired pneumonia. **Materials & Methods:** 70 patients of community acquired pneumonia (CAP) of both genders were enrolled. CURB-65 parameters such as mental status, respiratory rate, blood pressure and BUN was recorded. **Results:** Out of 70 patients, males were 45 and females were 25. Age >65 years was seen among 15 and <65 in 55, blood pressure >90/60mm Hg was seen in 5 and <90/60mm Hg in 65, respiratory rate (breaths/min)<30 was seen in 7 and >30 in 63. BUN (mmol/L)>7was seen in 30 and <7in 40 patients, mental status was altered in 18 and oriented in 52. The difference was significant (P< 0.05). **Conclusion:** CAP remains a major cause of morbidity and mortality in older adults. Timely intervention may prevent serious outcomes.

Key words: Community-acquired pneumonia,

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INTRODUCTION

Community-acquired pneumonia (CAP) is the term used to describe an acute infection of the lungs that develops outside the hospital setting in a patient who has not been recently hospitalized.[1] Reports in the medical literature have generally defined pneumonia as a new (although it should properly be stated as 'newly recognized') pulmonary infiltrate on chest X-ray or computerized tomography (CT) together with ≥ 2 of the following findings: new or worsening cough, sputum production or shortness of breath; pleuritic chest pain; fever or hypothermia; oxygen desaturation; confusion; leukocytosis or leukopenia.[2] Among elderly patients, CAP may present with less apparent symptoms.The 5 most common causes of CAP are Streptococcus pneumoniae, Mycoplasma pneumoniae, Chlamydia pneumoniae, Haemophilus influenzae, and influenza viruses. Streptococcus pneumoniae is the most common cause worldwide.[3]

A combination of clinical history, physical examination and/or laboratory tests help in diagnosis of Pneumonia.[7]The supposed gold standard tool for diagnosing pneumonia is a chest X-ray (CXR) which can distinguish pneumonia from other respiratory tract infections.[4] Other diagnostic tests such as laboratory tests (white blood cell count (WBC), erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), procalcitonin), blood culture, serology, and computed tomography scan (CT scan) have been reported with different rates of accuracy.[5]The present study was conducted to assess cases of community acquired pneumonia.

MATERIALS & METHODS

The present study comprised of 70 patients of community acquired pneumonia (CAP) of both genders. All patients gave their written consent for the participation in the study.

Data such as name, age, gender etc. was recorded. CURB-65 parameterssuch as mental status, respiratory rate, blood pressure and BUN was recorded. Results thus obtained were analysed statistically. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 70		
Gender	**Males**	**Females**
Number	45	25

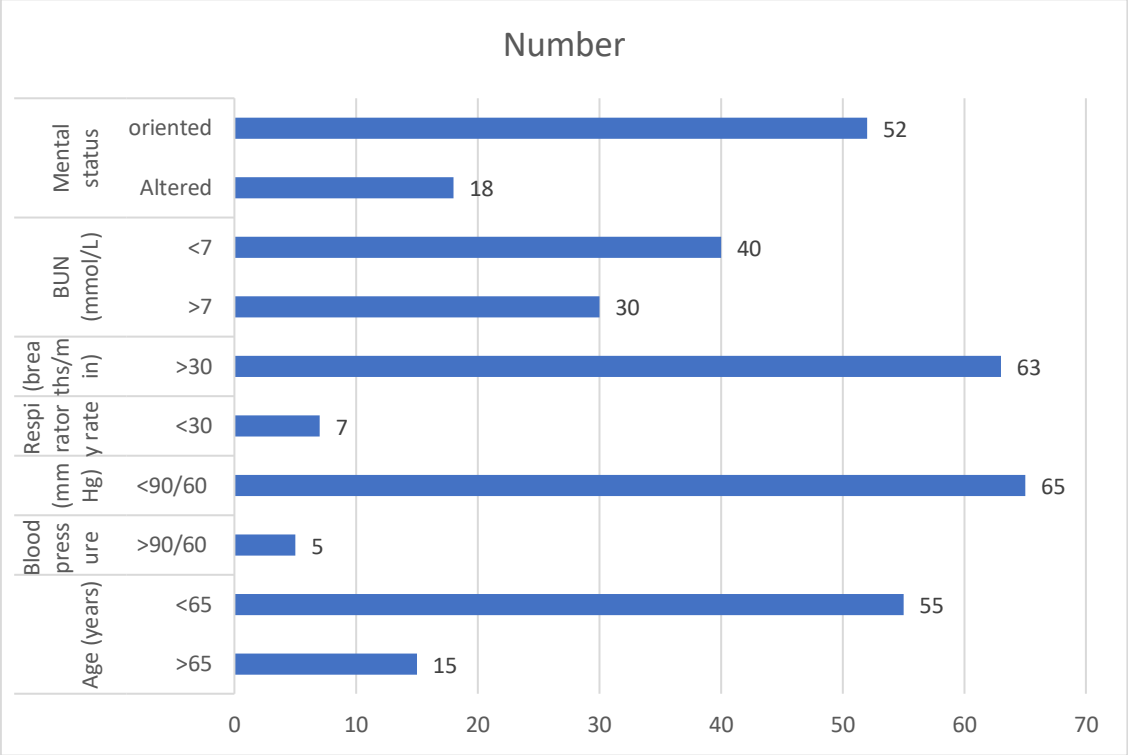
Table I shows thatout of 70 patients, males were 45 and females were 25.

Table II Measurement of CURB-65 parameters

Parameters	Variables	Number	P value
Age (years)	>65	15	0.04
	<65	55	
Blood pressure (mm Hg)	>90/60	5	0.01
	<90/60	65	
Respiratory rate (breaths/min)	<30	7	0.01
	>30	63	
BUN (mmol/L)	>7	30	0.92
	<7	40	
Mental status	Altered	18	0.05
	oriented	52	

Table II, graph I shows that age >65years was seen among 15 and <65 in 55, blood pressure >90/60mm Hg was seen in 5 and <90/60mm Hg in 65, respiratory rate (breaths/min)<30 was seen in 7 and >30 in 63. BUN (mmol/L)>7was seen in 30 and <7 in40patients, mental status was altered in 18 and oriented in 52. The difference was significant (P< 0.05).

Graph I Measurement of CURB-65 parameters



DISCUSSION

Community-acquired pneumonia (CAP) remains an important cause of morbidity and mortality in industrialized countries. In the general adult population, the annual incidence of CAP ranges between 1.6 and 13.4 cases per 1,000 inhabitants, 22–51% of whom require inpatient care, with a lethality of 3–24%. The mortality rate variesbetween 0.1 and 0.7 per 1,000 persons each year.[6] Despite considerable research, great improvement in medical care, and advances in antimicrobial therapy with the availability of active antibiotics against the known causative pathogens, mortality from CAP has not improved during the last decades.[7] Targeted risk reduction interventions based on understanding and recognizing risk factors for CAP are of primary importance in reducing CAPrelated death rates.[8]The

present study was conducted to assess cases of community acquired pneumonia.

We found that out of 70 patients, males were 45 and females were 25.In the preantibiotic era, pneumococcus caused 90–95% of all pneumonias; in fact, even into the 1960's, 'pneumococcal pneumonia' and 'pneumonia' were almost regarded as synonymous. Since the beginning of the antibiotic era, the proportion of CAP attributable to S. pneumoniae has steadily declined. This decline has been much more pronounced in the US.[9]

We found that age >65 years was seen among 15 and <65 in 55, blood pressure >90/60 mm Hg was seen in 5 and <90/60 mm Hg in 65, respiratory rate (breaths/min) <30 was seen in 7 and >30 in 63. BUN (mmol/L) >7 was seen in 30 and <7 in 40 patients, mental status was altered in 18 and oriented in 52. Almiral et al[10]performed a systematic review of the literature to establish conclusive evidence of risk factors for community-acquired pneumonia (CAP). Twenty-nine studies were selected, with 44.8% of them focused on elderly subjects ≥ 65 years of age and 34.5% on mixed populations. The median quality score was 7.44. Age, smoking, environmental exposures, malnutrition, previous CAP, chronic bronchitis/chronic obstructive pulmonary disease, asthma, functional impairment, poor dental health, immunosuppressive therapy, oral steroids, and treatment with gastric acid-suppressive drugs were definitive risk factors for CAP. Some of these factors are modifiable. Regarding other factors (e.g., gender, overweight, alcohol use, recent respiratory tract infections, pneumococcal and influenza vaccination, inhalation therapy, swallowing disorders, renal and liver dysfunction, diabetes, and cancer) no definitive conclusion could be established. Prompt assessment and correction of modifiable risk factors could reduce morbidity and mortality among adult CAP patients, particularly among the elderly.

Vila-Corcoles Aet al[11]assessed incidence, aetiology, clinical outcomes and risk factors for community-acquired pneumonia (CAP) in older adults. Incidence rate of overall CAP was 14 cases per 1000 person-years (10.5 and 3.5 for hospitalised and outpatient cases, respectively). Incidence was almost three-fold higher among immunocompromised patients (30.9 per 1000) than among immunocompetent subjects (11.6 per 1000). Maximum incidences were observed among patients with chronic lung disease and long-term corticosteroid therapy (46.5 and 40.1 cases per 1000 person-years, respectively). Overall, 30-day case-fatality rate was 12.7% (2% in cases managed as outpatient and 15% in hospitalised patients). Among 358 patients with an aetiological work-up, a total of 142 pathogens were found (single pathogen in 121 cases and mixed pathogens in 10 cases). Streptococcus pneumoniae was the most common pathogen (49%), followed by Pseudomonas aeruginosa (15%), Chlamydia pneumoniae (9%) and Haemophilus influenzae (6%). In multivariable analysis, the variables most strongly associated with increasing risk of CAP were history of hospitalisation for CAP in the previous 2 years and presence of any chronic lung disease.

Some studies have reported high frequencies of Pseudomonas aeruginosa causing CAP among older adults (especially COPD, immunocompromised and nursing-home patients).[12,13]

The limitation the study is small sample size.

CONCLUSION

Authors found that CAP remains a major cause of morbidity and mortality in older adults. Timely intervention may prevent serious outcomes.

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