Restricted Analysis of Mortality in an Acute Care Facility of a Rural Hospital in Bengal, India

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Abstract

Advances in acute care medicine have increased the chances of survival for patients with severe illness or trauma. The major causes of modifiable and non-modifiable mortality among patients treated in medical or surgical intensive care units (ICUs) are trauma, sepsis, complications of diabetes mellitus type 2 and hypertension, respiratory support, CVA, electrolyte imbalance, poisoning and snake bite. Such analysis will give an insight into the various factors which led to death. The pre-hospital co-morbidities will reinforce the internist to anticipate and take appropriate measures to mitigate their onslaught. In this way, the mortality in the ICU may be curtailed.

Keywords: Acute care; Ventilation; Mortality; Sepsis; Diabetes; Hypertension; COPD; Trauma

Introduction

Advances in critical care medicine have increased the chances of survival for patients with severe illness or trauma [1]. However, such patients consume a large proportion of medical resources [2-5]. The factors for mortality that have potential to be modified among patients treated in medical or surgical critical care medicine (ICUs) (Figure 1) are sepsis, diabetes mellitus type 2, hypertension, poisoning and snake bite. Understanding the risk factors and their contribution to mortality would support the view that monitoring of patients with above factors is expected to prevent many deaths.

Study period

January 1st, 2016 to 31st December 2016.

Sample size

All patients admitted to ICU during one calendar year.

Study population

Patients of both sexes and all ages admitted to the Critical Care Medicine Unit of Glocal Hospital, Krishnanagore were included in this study. Also included were patients transferred from the General Ward to ICU. Post-surgical cases requiring intensive care were also admitted to the ICU. There were no exclusion criteria. All patients admitted to acute critical care were interviewed. When required the patient party or accompanying personnel were interviewed. A thorough physical examination followed by relevant investigations was performed. CT scan, MRI, USG were performed in cases, particularly trauma cases and abdominal pain and other cases as required.

Study methods

Admitted cases were studied and those cases were selected for study which were admitted to Emergency Room (ER) and were treated in medical or surgical intensive care units (ICUs) (Figure 1) and died in the ICU. Deaths were recorded during the study period. On admission, the case acuity was high with majority of cases presenting to the Emergency (ER) with signs of hemodynamic impairment and sepsis (40%). While neurology deaths cases including CVA cases constituted about one-third of all ER admissions who needed airway protection on admission. Neurology deaths (20%) accounted for large numbers of Cardio Vascular Accidents (CVA) which were hemorrhagic in nature. Many of the neurology cases needed neurosurgical intervention (30%). Higher mortality was observed in cases of severe illness or trauma cases presenting to the Emergency (ER) within 24 hours of hospitalization which will be discussed in the results and discussion section.

Results and Discussion

Table 1 shows the distribution of admitted cases (1130 cases of diverse diseases male 432 and females 532) and 113 deaths. There were more females than males. A case fatality rate of 10% was recorded. Month-wise distribution of admissions showed that more than 100 cases were admitted in January, February, March and October, 2016. Highest number of cases died in the older age group (>60 years). There were no obvious admission and mortality trend month-wise.

Figure 1: Patients treated in medical or surgical intensive care units (ICUs) for trauma, sepsis.
In context of a typical rural setting, a critical care unit could achieve a case-fatality rate of 10% as compared to 12% of national figure. Although the data depicts the picture of one ICU in a rural area in India [8,9], it is representative of the similar ICUs in most ICUs of rural India. This was possible because of adherence to modern guidelines for critical care of ICU [10]. This facility may be utilized for training purposes and theses’ work.

### Conclusion

In a context of a typical rural setting, a critical care unit could achieve a case-fatality rate of 10% as compared to 12% of national figure. Although the data depicts the picture of one ICU in a rural area in India [8,9], it is representative of the similar ICUs in most ICUs of rural India. This was possible because of adherence to modern guidelines for critical care of ICU [10]. This facility may be utilized for training purposes and theses’ work.

### References