

The Epidemiological Profile of Elderly Patients admitted to the Intensive Care Unit at the University Hospital of the West Indies

ABSTRACT

Background: Few specialities are more influenced by outcome than critical care medicine. The very decision to provide such care to an individual relies heavily on anticipated recoverability. With most epidemiological studies suggesting that older patients generally have a higher mortality and are more likely to experience significant morbidity from their treatment in the intensive care unit (ICU) than their younger counterparts, many critical care physicians remain reluctant to admit them to ICU. Indeed, the provision of aggressive and expensive medical treatment to elderly patients remains the source of vigorous discussion.

Objective: To determine the demographic and clinical characteristics of patients aged 60 years and over admitted to the ICU and to identify any associations between these variables on admission and the disposition of the patient

Design: Retrospective cohort study

Setting: Multi-disciplinary ICU at the University Hospital of the West Indies, Jamaica

Study population: All patients aged 60 years and over admitted to the ICU at the University Hospital of the West Indies over the period July 1, 2011 to June 30, 2012

Methods: Using medical records and ICU charts, data was collected on all patients that fit the criteria for inclusion. Information recorded included age, gender, pre-existing chronic medical conditions, type of admission (planned vs. unplanned), admitting service, admitting diagnosis, reason for admission, Acute Physiology and Chronic Health Evaluation (APACHE) II score, length of stay and discharge status (discharged alive vs. died in ICU).

Results: Data was collected on 122 patients. Ages ranged from 60 to 88 years with a mean age of 70.6 ± 7.3 and a median age of 69. Fifty-three per cent of the study population was 60–69 years old with a modal age of 62. Males accounted for 62 per cent of the overall population. Eighty-nine per cent of the patients had at least one pre-existing chronic medical condition with just over 70 per cent having more than one chronic medical illness. Eighty per cent of the population was admitted under a surgical service, with 34 per cent coming from the General Surgery service. Seventy-one per cent of the admissions were unplanned and this trend was consistent for age and gender. However, the General Surgery service accounted for over 40 per cent of unplanned admission while 68.6 per cent of planned admissions were admitted under the Cardio-Thoracic Surgery service. Consistent with the trend for admitting service, diagnosis at admission was primarily one involving a surgical procedure. Most of the patients were admitted primarily for either multi-system (36 per cent) or ventilatory support (26 per cent). The mean APACHE II score was 22.8 ± 10.3 , with a median and modal score of 20.0. Statistically significant differences in scores were observed by gender, admitting service, type of admission and reason for admission. Sixty-four per cent of the patients spent less than seven days in the ICU with most (39 per cent) spending between one and three days. Longer stay was associated with unplanned admissions and patients admitted for ventilatory support. Thirty-eight per cent of the patients did not survive their

ICU stay. Within the study population, there was only a slight increase in mortality with advancing age. Significantly higher mortality was associated with unplanned admissions (46 per cent; relative risk, 2.68; confidence interval, 1.25-5.75; $p=0.01$) and patients admitted for multi-system support (56 per cent; relative risk, 2.04; confidence interval, 1.30-3.19; $p=0.002$). Mortality was also found to be higher in patients that stayed less than 24 hours (100 per cent; relative risk, 2.61; confidence interval, 1.85-3.68; $p<0.001$) and longer than 14 days (73 per cent; relative risk, 2.12; confidence interval, 1.36-3.31; $p<0.001$). The lowest mortality was recorded in planned admissions (17 per cent; relative risk, 0.37; confidence interval, 0.17-0.80; $p=0.01$) and those who were admitted for 4-7 days (16 per cent; relative risk, 0.37; confidence interval, 0.15-0.95; $p=0.04$).

Conclusion: This study has shown that while advancing age increases the risk for not surviving an ICU stay, not all critically ill elderly patients have a poor prognosis. Closer analysis of specific subgroups of elderly patients has shown that age alone should not be used as an independent predictor of mortality. Mortality seemed to be most significantly associated with the type of admission, the primary reason for admission, the severity of illness (APACHE II score) and the length of stay. It is noteworthy that while people aged 60 years and over only account for approximately 10 per cent of the total population in Jamaica, there was a disproportionate rate of admission to the ICU suggesting that this group of patients likely represents a particularly high risk group.

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