

Mortality in octogenarians admitted to the ICU with respiratory failure: a retrospective observational single-center study

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Introduction

With an aging population, more octogenarians are admitted to the ICU with frequent respiratory failure requiring vital organ support. Given the high mortality after severe pneumonia in critically ill patients, we aimed to determine if mortality rates differ in patients ≥ 80 years old and whether ICU admission is still beneficial or constitutes 'overzealous treatment'.

Methods

This retrospective study included all patients admitted to the ICU with respiratory failure at Jessa Hospital, Hasselt, from 01/01/2022 to 31/12/2022. We collected data on baseline characteristics and comorbidities, causes and treatments for respiratory failure, and outcomes, including length of stay and mortality

Results

Our study included 234 patients with a median age of 70 years (65-77). SOFA and APACHE II scores on admission were 5 (4.00-8.00) and 20 (16.00-24.00), respectively. Of all patients, 57,70% were referred from the Emergency Department, 38,90% from in-hospital wards, and 3,40% from referral hospitals. Overall mortality was high, with an ICU mortality of 19,20%, an additional in-hospital mortality of 14,10%, and a 90-day mortality of 38,90%. When comparing mortality between octogenarians and patients < 80 years, ICU mortality was not significantly different, in contrast to mortality one month after admission to the ICU, which was significantly higher in octogenarians (Table 1). Moreover, 90-day mortality was 50,00% in octogenarians..

Multivariate logistic regression analyses showed an increased mortality risk for patients with a history of cardiovascular disease or malignancy, while patients with diabetes appeared to have a lower risk of 90-day mortality

Mortality, n (%)	Age < 80 years (n=190)	Age ≥ 80 years (n= 44)	P-value
Mortality in ICU	33 (17.37%)	12 (27.27%)	0.13
Additional mortality in-hospital	26 (13.68%)	7 (15.90%)	0.70
1-month mortality	53 (27.89%)	19 (43.18%)	0.05
3-month mortality	69 (36.31%)	22 (50.00%)	0.09

Table 1: Outcome of patients admitted to the ICU due to respiratory failure in relation to age: age < 80 vs. age ≥ 80 years
Continuous data are expressed as mean \pm standard deviation if normally distributed or median (25%,75% percentiles) if not. Categorical data are expressed as numbers and percentages. ICU: intensive care unit

Conclusion

Octogenarians admitted to the ICU for respiratory failure have a 50% mortality risk within three months. Therefore, clinicians should carefully assess whether ICU care would benefit each patient, taking into account the various risk factors.