Abstract: **P806**

Clinical features and determinants of long-term mortality in patients admitted to a Cardiac Intensive Care Unit in a tertiary referral center.

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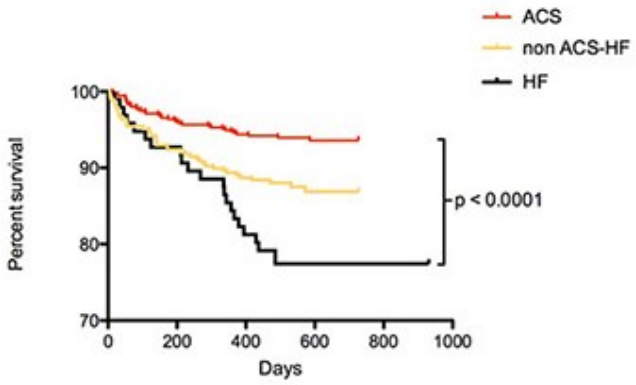
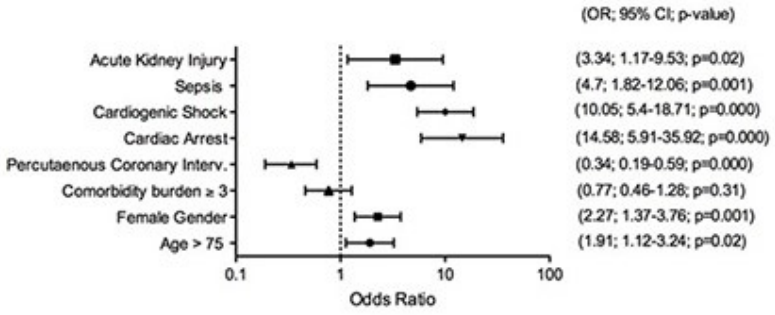
Background: the modern coronary care unit (CCU) is evolving in a very different landscape, where a heterogeneous population, rich in both cardiovascular and non-cardiovascular illnesses, is represented. The European Society of Cardiology, recently, defined the main characteristics and requirements of the modern Cardiac Intensive Care Unit (CICU). However, objective data on epidemiology, management, and outcome of acute cardiac illness patients, are still scarce and producing evidence based guidelines remains an issue.
Purpose: in order to define the clinical characteristics and the potential predictors of in-hospital and long term mortality we performed an observational study in a tertiary cardiac center in Italy.
Methods: 1165 consecutive patients admitted to our CCU in year 2016 were included in the study. The data were collected from the hospital discharge summary and the electronic chart records. Continuous variables were presented as mean +/- standard deviation and categorical variables as absolute number and percentage value. Chi-square test was performed for categorical variables while a Kruskal-Wallis test was used for comparison of continuous variables among groups. A logistic regression analysis and a Cox proportional hazard model were carried out to identify potential predictors of mortality. All statistical analyses were performed using the SPSS 21.0 and a $p < 0.05$ was taken as significant.
Results: total in-hospital mortality was 7.2%. Over a mean follow-up period of 17.4 +/- 4.8 months, 96 deaths for any cause occurred in patients who were alive at discharge. One-year mortality rate was 8.2%. According to the discharge diagnosis we defined three groups: Acute Coronary Syndrome (ACS), Acute Heart Failure (AHF) and non-ACS/AHF. The ACS group was the largest (55.8%). AHF and non-ACS/AHF patients were older, showed more co-morbid conditions, longer in hospital stay, and higher in-hospital and long-term mortality (Fig.1A). Fig.1B shows the main predictors of in-hospital mortality. Predictors for long-term mortality were: age (HR: 1.08; 95% CI: 1.06-1.11; p=0.000), female gender (HR: 0.62; 95% CI: 0.39-0.96; p=0.034), comorbidity = 3 (HR: 1.61; 95% CI: 1.01-2.54; p=0.04), acute kidney injury (HR: 2.46; 95% CI: 1.20-5.03; p=0.01), PCI (HR: 0.37; 95% CI: 0.23-0.60; p=0.000), inotropic treatment (HR: 2.94; 95% CI: 1.63-5.31; p=0.000).
Conclusion: in our Level-2 CCU we generally admit elderly patients with a significant burden of non-cardiovascular co-morbid conditions and acute cardiovascular and non-cardiovascular complications, that are associated with in-hospital and long term mortality. Our mortality rates are lower than those found in Level-3 ICU, possibly because uncomplicated ACS, associated with a lower mortality rate, remains the main cause of admission. However, predictors of in-hospital and long term mortality are shared with those of other Level-3 ICUs, suggesting the need for a substantial reorganization of the modern CCU.

Fig.1

A


ACS
non ACS-HF
HF
Percent survival
100
90
80
70
0
200
400
600
800
1000
Days
p < 0.0001

B


(OR; 95% CI; p-value)
Acute Kidney Injury
Sepsis
Cardiogenic Shock
Cardiac Arrest
Percutaenous Coronary Interv.
Comorbidity burden ≥ 3
Female Gender
Age > 75
(3.34; 1.17-9.53; p=0.02)
(4.7; 1.82-12.06; p=0.001)
(10.05; 5.4-18.71; p=0.000)
(14.58; 5.91-35.92; p=0.000)
(0.34; 0.19-0.59; p=0.000)
(0.77; 0.46-1.28; p=0.31)
(2.27; 1.37-3.76; p=0.001)
(1.91; 1.12-3.24; p=0.02)
0.1
1
10
100
Odds Ratio