



Cardiogenic shock in general intensive care unit: a Nationwide prospective analysis of epidemiology and outcome – On behalf of GiViTI



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INTRODUCTION Cardiogenic shock (CS) is a heterogenous, life-threatening disease burdened by a mortality up to 50%. The epidemiology is changing with non-ischemic etiologies becoming predominant. Previous epidemiological and clinical data derived from patients admitted to dedicated acute cardiac care. Epidemiology and management of CS patients admitted to general intensive care unit (ICU) is still under-investigated.

PURPOSE To describe the epidemiology, patients features, management and outcome of patients with CS admitted to general ICU from a prospective nationwide epidemiological registry

METHODS Prospective multicentric epidemiological study. Over 600 thousand patients admitted to 316 hundred general intensive care units from 2011 to 2018 were screened. The primary outcome of the analysis was hospital mortality. Secondary outcomes included description of patients features and management.

RESULTS 11661 patients (mean 72.1 ±12.1 y.o.; 39.5% women) with a diagnosis of CS were included in the analysis. ICU and in-hospital mortality were 45.5 % and 53.9%. 46.9% of patients presented with more than 3 organ failure (figure). CS commonest aetiologies were: acute heart failure (7279; 63,3%), acute myocardial infarction (2272; 19.8%) and right heart failure (1260; 11%). Invasive mechanical ventilation was used in the 88.6% of cases. Continuous replacement therapy and VA ECMO were implied most frequently in the right heart failure group (21.3% and 3.7%) followed by acute myocardial infarction (VA ECMO 2,6%) Intra-aortic balloon pump was placed in 15.2% of patients with higher frequency in ischemic etiologies (43.9%) and ADHF (13.7%). The factors independently associated with increased hospital mortality were increasing age (p <0.001), lower Glasgow coma scale (p <0.001), hypoxemia (PaO2 <100, OR: 1.91; 95% CI: 1.58 – 2.3; p <0.001), bradycardia (OR: 1.84; 95% CI: 1.49 – 2.26; p <0.001), hypotension (OR: 1.27; 95% CI: 1.12 – 1.43; p <0.001), bilirubin above 12 mg/dl (OR: 7.90; 95% CI: 2.56 – 24.3), increased creatinine (p <0.001), reduced platelets (<50000 U/mL, OR: 2.43; 95% CI: 1.78 – 3.31; p <0.001).

CONCLUSIONS The etiology of CS in general intensive care is heterogeneous with acute heart failure being the commonest. The mortality rate remains unacceptably high with right heart failure and acute heart failure being burden by the worst outcome.

