Topic 13 – Emergency and intensive care in cardiology

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0130

Mortality related to cardiogenic shock in critically ill patients in France, 1997-2012

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Introduction Most of data reporting epidemiology of cardiogenic shock (CS) concern patients with acute myocardial infarction admitted in intensive care unit of cardiology. However, CS patients managed in critical care unit (CCU) have often multiorgan failure and seem to have different characteristics and outcome. To our best knowledge no study reported characteristics and clinical outcomes of CS patients admitted in CCU.

Aim To report key features, Mortality and Trends in mortality in a large cohort of patients with CS admitting in 33 French CCUs from 1997 to 2012.

Methods and results We queried the 1997–2012 database of Parisian area ICUs-the CubRea (Intensive Care Database User Group) database to identify all hospital stays with a principal or an associated diagnosis of CS (National classification of disease R 570). Among 303 314 hospital stays, 17 494 (5.8%) were CS. The patients were managed in 60% of cases in universitary centers. Mean age was 64.3±17.0. Men accounted for 11047 (63.1%). Mean SAPS II was 62.0±24.3. Among CS, only 535 (3.06%) were AMI whereas 2685 (15.3%) were cardiac arrest and 858 (4.9%) were drug intoxications. Mechanical ventilation was required in 12967 (74.1%) of cases, inotropes in 14640 (83.7%) of cases and renal support in 3886 (22.2%) of cases. Mean duration of hospital was 19.1 days±24.7. Intrahospital Mortality was high (46.2%). Predictors of intrahospital death are reported in Table. Over the 15-year period, mortality decreased (49.8% in 1997-2000 and 42.7% in 2009-2012, p<0.001) whereas the patients were more critically ill (SAPS II 58.8±25.4 in 1997-2000 vs 64.2 8±23.6 in 2009-2012, p<0.001).

Conclusion it is the first study reporting the prevalence, determinants and prognostic factors of CS patients managed in reanimation. The mortality of these very critically ill patients remains high. However over the 15-year period, even if these patients are more and more critically ill, early mortality decreased.

The author hereby declares no conflict of interest

Abstract 0130 – Table

Variables	OR	95% CI	
Drug intoxication	.307	.236	.401
Age (<60 yo)	.436	.383	.496
Mechanical circulatory support	.681	.378	1.228
Sepsis	.715	.637	.802
2009-2012	.998	.885	1.125
SAPS II	1.036	1.033	1.038
Acidosis	1.453	1.264	1.670
Mechanical ventilation	1.718	1.483	1.990
Acute respiratory distress syndrome	1.794	1.558	2.066
1997-2000	1.814	1.452	2.267
Hemodialysis	1.820	1.609	2.060
Inotropic use	1.982	1.113	3.530
Disseminated intravascular coagulation	2.119	1.591	2.822
Cardiac arrest	4.333	3.840	4.889

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Cardiogenic shock and Impella 5.0

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Background Cardiogenic shock is associated with a high mortality rate. Mechanical circulatory supports have been developed for refractory cardiogenic shock. The Impella 5.0 device is a rotary microaxial pump mounted on a catheter across the aortic valve, minimally invasively placed, designed for short-term circulatory support, and providing left ventricular unloading.

Methods All patients admitted in our cardiac intensive care for acute refractory cardiogenic shock and treated with Impella 5.0 between January 2010 and January 2015 were included.

Results 12 patients were enrolled. The causes of cardiogenic shock and indications for using Impella device were acute myocardial infarction for 6 (50%), decompensated dilated cardiomyopathy for 4 (34%), myocarditis for 1 (8%) and cardiac surgery for 1 (8%). The mean duration of support was 13±8 days. The 30-days and 1-year survival was respectively 75% and 58%. Among 30-days survivors, ventricular function recovered in 5 (56%), 3 (33%) underwent heart transplant and 1 (11%) underwent implantation of a Heartmate II.

Conclusion Our outcomes demonstrate that the use of the Impella 5.0 strongly improved survival at 6 months. Myocardial recovery was achieved in most patients. The Impella also allowed safe implantation of long-term assistance and successful heart transplantation.

Abstract 0008 – Table

	IMPELLA 5.0
Left ventricular ejection function (%)	21±6
Right ventricular dysfunction n (%)	0 (0)
Cardiac index (L/min/m^2)	1.3±0.2
Mean arterial pressure (mmHg)	66±9
Systolic blood pressure (mmHg)	89±13
Lactates (mmol/L)	6.5±5
Duration of support (days)	14±8
Duration of hospitalisation in intensive care (days)	39±15
30-days survival n (%)	8 (73)
6-months survival n (%)	7 (64)
1-month LEVF (%)	45±9
Myocardial recovery n (%)	4 (63)
Heart transplant (n (%)	3 (11)
LVAD (Heartmate 2) n (%)	1 (9)

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