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Patients near to cardiogenic shock (CS) but without hypotension have similar prognosis when compared to patients with classic CS: Is it time for redefine CS? A FRENSHOCK multicenter registry analysis



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Background Classical definition of cardiogenic shock (CS) combine a systolic blood pressure (SBP) <90 mmHg with a low cardiac output and tissue hypoperfusion. By contrast, in practice, the spectrum of presentations is, by far, more complex. We compared presentation and prognosis between hypotensive and normotensive low cardiac output patient.

Methods FRENSHOCK was a multicenter, prospective, observational survey realized between 04 and 10.2016 in 48 centers in France. Patients were included if they met the criteria below:

- a low cardiac output (SBP <90 mmHg and/or need of amines, and/or a low cardiac index <2.2L/min/m² on TTE or Swan-Ganz);
- clinical, radiological, biological (NTproBNP or BNP), echocardiography, or invasive hemodynamics overload signs;

– a clinical and/or biological hypoperfusion (lactates >2 mmol/L, hepatic or renal failure).

Results A total of 772 patients were included (male 72%, median age 66y): 678 with SBP <90 mmHg (group A) and 94 with a proven low cardiac output without hypotension (group B). Group B patients have more chronic renal failure, more idiopathic dilated cardiomyopathy, more previous treatment by furosemide, and CS was more frequently caused by drug inobservance. They have less marbles, lower LVEF, more mitral insufficiency and higher pH but without significant difference for lactate. They were more treated by furosemide (95 vs 81%, $P=0.001$), but less by dobutamine (71 vs 80%, $P=0.002$), norepinephrine (21 vs 58%, $P=0.01$), epinephrine (4 vs 13%, $P=0.012$), invasive mechanical ventilation (15 vs 41%, $P<0.01$), renal replacement therapy (3 vs 18%, $P<0.001$) and circulatory support (11 vs 20%, $P=0.035$). At 30 days, no difference in mortality, heart transplantation and/or VAD implantation was observed (Fig. 1).

Conclusion Normotensive patients with low cardiac output, overload and hypoperfusion signs present similar prognosis to classical CS. So, current definitions for CS could be challenged to avoid underestimate these patients.

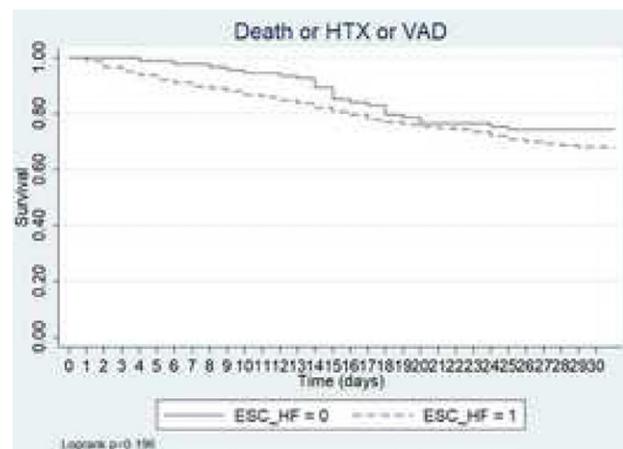


Figure 1 Thirty days survival without HTx or VAD.

Disclosure of interest The authors declare that they have no competing interest.

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