CRRT in Heart Arrhythmias Triggered by Hyperthermia After Cardiac Surgery

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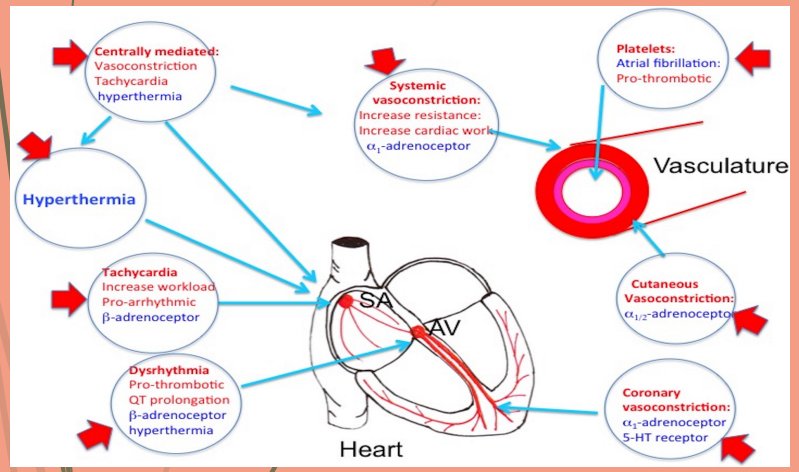
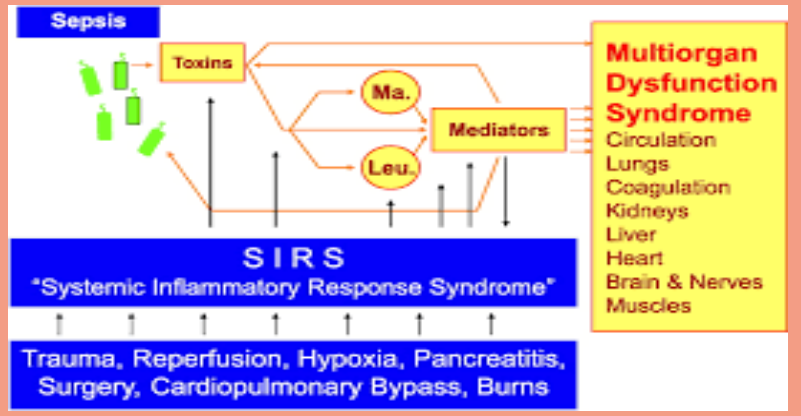
Hyperthermia commonly accompanies cardiac surgery after cardiopulmonary bypass(CPB), due to a systemic inflammatory response (SIRS) and is associated with an increase in oxygen consumption, and sometimes with hemodynamic instability.



We will present 5 cases of severe hyperthermia (>/=39.5 C) that triggered severe life-threatening ventricular and supraventricular arrhythmias refractory to antiarrhythmic drugs. 5 cases were series aged 69.1±9.9 years operated under emergency conditions:

- 1 with **interventricular defect post myocardial infarction**
- 1 with **pseudoaneurism of the LV wall post MI**
- 2 with **dysfunction of the mitral valve prosthesis**
- 1 with **acute myocardial infarction**



The mean (CPB) was 135±17 min, ejection fraction was (EF<35%). Hemodynamic was maintained with the support of Intra Aortic Balloon and vasoactive drugs. On the second postoperative day, they developed high temperature triggered in two cases of refractory ventricular tachycardia, third one-ventricular fibrillation, and 2 other cases with atrial fibrillation (AF) with a heart rate (HR) of 170 -200 min. The arrhythmia was treated with lidocaine, amiodarone, b blocker, but was refractory to therapy. The patients were shocked multiple times (16±4). The clinical situation deteriorated in cardiogenic and hyperkinetic shock.

We failed to decrease the temperature with physical maneuvers and antipyretics drugs and **decided to start CRRT**. Initially, we used high-volume hemofiltration >45 ml/kg/hour and after the temperature was normalized continued with 35ml/kg/ hour. Immediately after initiation of CRRT, no one of the patients was electrically shocked for life-threatening arrhythmias. HR was normalized. The mean CRRT time was 48±6 hours. **Four of the patients survived, and one died after 30 days.**

In conclusion, we strongly suggest early initiation of CRRT in refractory hyperthermic conditions accompanied by hemodynamic and cardiac rhythm instability after cardiac surgery with CPB machine.