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Difference in the Expression of CIRBP, RBM3 and HSP70 in the Myocardium and Cerebellum after Death by Hypothermi a and Carbon Monoxide Poisoning

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Abstract : We studied the expression of hypoxia-related antigens (e.g., cold-inducible antigens and apoptotic antigens) in the myocardium and the cerebellumthat were obtained from individuals after death by carbon monoxide or hypothermia. The immunohistochemistry results revealed that expression of cold-inducible RNA binding protein (CIRBP) and RNA-binding protein 3 (RBM3) may be associated with hpyothermic and the hypoxic conditions. The expression of CIRBP and RBM3 in the myocardium was different from their expression in the cerebellum, especially in the Purkinje cells. The results indicate that agonal duration influences antigen expression. In the hypothermic condition, the myocardium uses more ATP since the force of the excitation-contraction coupling of the myocardium increases by more than 400% when the experimental temperature is reduced from 35°C to 25°C. The results obtained in this study indicate that physicians should pay attention to the myocardium when cooling the patient's body to protect the brain.

Keywords : carbon monoxide death, cerebellum, CIRBP, hypothermic death, myocardium, RBM3
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