The study of postmortem activity of cells-producers of interleukin (IL-1β) as a marker histochemical use of rapid methods for forensic medical examination of corpses

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Summary. For definition of possibilities and conditions of biochemical activity in a skin and muscles as a marker of intravital and posthumous traumas, at carrying out experimental qualitative macrohistochemical reactions there was a necessity of use of a control laboratory method. Comparison of presence and quantity of immune cells which are capable to express receptors to IL-1β (to cells-producers of interleukin) at intravital and posthumous damages depending on a temperature mode in various time terms has been for this purpose used. Experimental researches have been made on rats of line Wistar. Traumatic changes were invoked by the dosed impacts in a femur narcotized animals with use of the special device. Immune cells was differentiated with the help of monoclonal antibodies to cells-producers of IL-1β. The assessment immunohistochemical signs for intravital and postmortem of blunt trauma from the traumatization moment with the subsequent exposition of samples of soft fabrics throughout 30 minutes, has been made 1 h, 2 h, 4 h and 6 h at temperature modes +18ºC, +37ºC,-10ºC. The carried out analysis of indexes of relative volume IL-1β, both in a derma, and in muscles has allowed to position statistically significant relative indexes ($p<0,001$) between posthumous and intravital damages of soft fabrics in early postmortem period. Presence stable immunohistochemical patterns at low temperatures and conservation of population of cells-producers of IL-1β in regions of damages at ambient temperature testifies to use possibility immunohistochemical quick tests in a forensic medical examination of corpses for establishment of intravital or posthumous character of damages through enough wide interval of time which has passed from the moment of approach of death.

Key words: forensic medical examination, intravital and posthumous damages, skin, muscle, cells-producers of IL-1β.

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