

MORPHOMETRIC ANALYSIS OF MYOCARDIAL AND INTERSTITIAL CONNECTIVE TISSUE IN THE HEROIN ADDICTS: A CASE-CONTROL STUDY

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Sudden deaths are mostly caused by substance abuse and overdose, whether they were used separately or combined with other substances having depressor effect on the central nervous system. Apart from the pathology associated with the central nervous system and the lungs, a large portion in sudden death occurrence in opiate abusers lies also in the pathology of cardiovascular system, especially the heart. A group of 42 long-term heroin addicts was observed (35 men and 7 women), aged 18-48 years, whose sudden death was related to heroin abuse, whether heroin taken intravenously (38 cases) or by sniffing (4 case). Myocardial tissue samples were processed with the modified Movat's staining procedure and analysed statistically. In the current study, standard histological examinations of the heart muscle in heroin addicts found cardiomyocyte hypertrophy and interstitial and/or perivascular fibrosis with statistical significance ($p < 0.001$) in comparison with the control group. In 24% (10 cases) of all examined cases, histological picture in the heart muscle matching the picture of the acquired cardiomyopathy was determined. We believe that in cases of repeated intoxication, even in the doses of heroin that are not inherently lethal, sudden changes in hemodynamics and disturbances in the rhythm of operation of such altered and more vulnerable heart muscle can affect the occurrence of sudden cause of death.

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