# THE MICROSTRUCTURE OF THE LIVER OF JUVENILE DOGS IN A TERMINAL STATE OF TRAUMATIC SHOCK

M. Dgebuadze

It is well known that multiple organ failure in shock occurs very often and the liver refers to "shock organs". Nowadays unified classification of shock does not exist. It is still not resolved the question of the assessment of the staging and severity of the shock. In some modern methodological guidelines and recommendations for shock terminal states are excluded from the classification, and in others they are the shock of the fourth degree. All the authors recognize the role of blood and plasma loss in the pathogenesis of shock, however, many aspects of its inclusion in the mechanisms of shock process has not been fully clarified.

The aim of this study was a comparative morphological study of the liver in the experiment in a terminal state of traumatic shock with blood loss and without it.

Experiments were carried out on 6-8 month outbred juvenile unanesthetized dogs of both sexes (9 dogs). The shock was caused by the method W.Cannon. In the first series of experiments on the soft tissues of the thigh of the dog blows in the quantity necessary for permanent decrease in systemic arterial pressure to the level of 40-50 mm Hg were struck. In the second series of experiments on the soft tissues of a thigh of a dog blows were struck until systemic arterial pressure was decreased to the level of 80-90 mm Hg; directly after this the bleeding from a femoral artery reducing arterial pressure to the level of 40-50 mm Hg in addition was caused. All experimental animals before the trauma, as well as control dogs before taking of liver tissue for examination, were fixed on the operating table in the supine position. Under local anesthesia with 0, 5% solution of novocaine was allocated the right carotid artery, then it was cannulated and connected with U–shaped mercury manometer Louis for recording of arterial pressure; left femoral artery and a vein were also cannulated. Liver tissue was taken at the time of reducing the systemic blood pressure of 25-30 mm Hg by surgical biopsy. Pieces of liver were fixed in Carnoy's fluid. Up to 5 mk paraffin sections were stained with haematoxylin and eosin, as well as by Van Gieson's method. Pieces of liver, fixed in 12% formalin, were used for staining of elastic fibers by Weigert's method. For morphometric evaluation of liver was used ocular grid “VS–4”. Experiments complied with local regulations concerning the use of animals for research purposes.

It was established that traumatic shock with blood loss and without it in the liver of juvenile dogs causes the same type, non-specific changes; the difference is only in the depth of their expression; more profound changes in the liver observed in traumatic shock with blood loss.

Traumatic shock, blood loss, experiment, juvenile dogs, liver, pathology, histology, morphometry