

A STUDY IN CHINOLINEDIPARON EFFECT ON LYMPH SYSTEM COAGULATION ACTIVITY UNDER CARDIAC INFARCTION

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Introduction. Violation of lymph outflow from cardiac muscle damage area leads to development of interstitial edema, aggravates microcirculation disturbance in coronary vessel obliteration area.

Aim. The object of work is to study the effect of chinolinediparon (chinoline derivative of carboxylic acids) on lymph circulation wrapping activity and lymph drainage function of cardiac muscle under acute cardiac infarction.

Materials and methods Experiments were performed on 49 rats with weight of 180 – 200 g. In 7 rats the lymph coagulation condition and lymph outflow rate (lymphorrhagic syndrome) was studied in intact condition.

In the rest of animals acute cardiac infarction was imitated by tying upper third of anterior interventricular artery. The dynamics of acute cardiac infarction progress was monitored by ECG registration and determination of creatine phosphokinase (CPK) in blood serum by spectrophotometry using Chemaiol standard reagent set. The blood was taken from auricular limbic vein. ECG was registered in intact condition and within 30 days, CPK at the beginning of experiment as well as within 6 days after imitation of infarction. Statistical calculations were carried out using Student's t-test in an Excel application and SPSS Statistics 17.0.

Results and discussion In animals of Group 2 after administration of chinolinediparon substance the course of infarction was more favorable. Alterations of lymph coagulation were marked by reduction of heparin tolerance by 69%, more than 1.6 times decrease of prothrombin index as compared with control group, substantial increase of heparins and thrombin time (22.1 and 23.3% respectively), fibrinogen concentration was reduced 2.5 times. Lymph outflow velocity increased more than 4 times as compared with controls (0.139 ± 0.014 mL / min) which was indicative of intensified lymph drainage, thus, better removal of cardiac metabolism toxic products.

Conclusion It must be noted that within the following periods of study heparin and thrombin time values were higher than initial ones, whereas prothrombin index and fibrinogen concentration remained reduced up to the end of observation. Consequently, we may state that chinolinediparon administration has an expressed hypocoagulation effect and stimulated lymph anti-coagulation activity. Chinoline Diparon showed an expressed hypocoagulation effect in experiment as well as assisted in acceleration of cardiac lymph draining function.