Conclusions. SC attenuates signs of rat pulmonary fibrosis that supports implication and importance of Cu-containing AOs in the disease pathogenesis and reflects complex molecular background involved, including EMT, inflammation and oxidative damage. Identified molecular targets of SC provide a novel potential opportunity to improve therapeutic strategies of pulmonary fibrosis.

FIBRONECTIN ISOFORMS IN THE BLOOD OF PATIENTS WITH CHRONIC DIFFUSE LIVER DISEASE

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Background and aim. Chronic diffuse liver disease is characterized by the steady progression of fibrosis with the accumulation of excessive extracellular matrix and scar tissue in the parenchyma of the organ. Fibronectin plays a vital role in tissue repair. Glycoprotein isoforms are simultaneously part of the fibrous matrix of the liver and circulate in plasma. The expression and content of plasma and cellular fibronectin depends on the phase of the disease and the stage of progressive fibrosis.The aim of the study was to determine the level of plasma and cellular forms of fibronectin in chronic diffuse liver disease.

Methods. The blood of patients with chronic diffuse liver disease aged 28-60 years (n=36), who were hospitalized in the Department of Liver and Pancreatic Diseases of the Institute of Gastroenterology of the National Academy of Medical Sciences of Ukraine. The control group consisted of 15 healthy donor volunteers, aged 25 to 52 years without a history of liver disease or other immune diseases.

Plasma and cell fibronectins levels were determined by ELISA. In the case of cellular fibronectin, monoclonal antibodies provided adhesion to the cell-binding domain RGD (FN30-8; M010 TaKaRa Shuzo Co. Ltd., Shiga, Japan) located in the center of this glycoprotein, and in the case of plasma fibronectin - to all fibronectin binding sites (ab2413; Abcam, Cambridge, UK). The secondary antibodies conjugated to horseradish peroxidase: goat anti-mouse IgG (A16066, ThermoFisher Scientific, US) and anti-rabbit goat immunoglobulins (31466, ThermoFisher Scientific, US) were used. The optical density of the test samples was determined using a spectrophotometer "Humareader" (Human, Germany, 2001) at a wavelength of 492 nm.

Results. In patients with chronic diffuse liver disease, a statistically significant decrease in plasma fibronectin concentration was decreased by 27.6% compared to the control group. For the cellular form of fibronectin, the established concentration in blood plasma for the group of almost healthy donors is equal to 1.71 ± 0.05 μg / ml. At the same time, an increase in plasma concentrations of cellular fibronectin in the presence of chronic diffuse liver disease relative to the norm by an average of 63.8% was shown.

Conclusions. The study evaluated the possibility of using of fibronectin isoforms in patients with chronic diffuse liver disease as serological biomarkers.

EFFECT OF IRIDOIDS AND ANTHOCYANINS FROM THE *CORNUS MAS* L. FRUITS ON THE ANTIOXIDANT DEFENSE SYSTEM IN LEUKOCYTES UNDER EXPERIMENTAL DIABETES MELLITUS

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Remedies based on medicinal plant can have beneficial effect on human health and significantly enhances therapeutic capabilities in combination with other medicine. Despite the large number of available drugs, scientists continuously conduct a search and investigate the mechanism of action of phytopreparations. In our previous investigation, we showed that extracts of red and yellow fruits of the *Cornus mas* L. demonstrated the antidiabetic properties in rats with diabetes mellitus. The blood is one of the first tissue, which respond to the adverse changes in organism under diabetes mellitus. Therefore, the aim of our study was to evaluate effects of iridoids (extracts of yellow fruits) and a mixture of iridoids with anthocyanins (extracts of red fruits) on oxidative stress-related parameters and activity of antioxidant enzymes in leukocytes of rats with diabetes mellitus.

The investigation was conducted in accordance with the Directive 2010/63/EU of the European Parliament and the Council of 22.10.2010 on the protection of animals used for scientific purposes. Wistar male rats were used in the experiments. Diabetes was induced by a single intraperitoneal injection of streptozotocin at a dose 60 mg/kg bw. On the 10^{th} day of experiments, animals with streptozotocin-induced diabetes mellitus were randomly divided into three groups. The first group consist of control diabetic animals. The second group were treated with 1 ml of extract solutions of red fruits of the *Cornus mas* L. in the amount of 20 mg/kg bw daily for 14 days, intragastrical, while the another group of animals with diabetes received 1 ml of extracts of yellow fruits in the