

нові меланіну – 981,7±69,4 г (p<0,05), та в групі щурів, у яких рани обробляли гелем Пантестин-Дарниця – 741,7±87,3 г (p<0,05). Отже, міцність шкіри після застосування фармакологічної композиції на основі меланіну та гелю Пантестин-Дарниця зростала.

Таким чином доведено, що фармакологічна композиція на основі меланіну прискорює гоєння лінійних різаних шкіри у щурів та посилює її міцність. Порівняння ефектів фармакологічної композиції на основі меланіну та гелю Пантестин-Дарниця показало, що дія фармакологічної композиції на основі меланіну була більш вираженою.

## **VITAMIN D<sub>3</sub> DEFICIENCY IN PATIENTS WITH NON-ALCOHOLIC FATTY LIVER DISEASE AND TYPE 2 DIABETES: PRESENT AND FUTURE**

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**Background.** The scientific literature of recent years shows that non-alcoholic fatty liver disease (NAFLD) is strongly associated with type 2 diabetes mellitus (T2DM), and low vitamin D levels are positively associated with NAFLD and T2DM. However, there is evidence that the use of vitamin D is not effective in patients and may even be toxic. That's why the aim of this study was to evaluate steatosis indices and metabolic parameters in NAFLD depending on D<sub>3</sub> status.

**Materials and methods:** according to the recommendations of the European Society of Endocrinology, all patients were divided into 3 groups: group 1 – with an optimal level of vitamin D<sub>3</sub> (30ng/ml); group 2 – D<sub>3</sub> insufficiency (21-29ng/ml) and group 3 – D<sub>3</sub> deficiency (<20ng/ml).

**Results:** The study included 126 T2D patients with NAFLD diagnosed with US. The highest hepatic steatosis (HSI) and fatty liver (FLI) index values were diagnosed in D<sub>3</sub> deficiency as compared to optimal group (HSI – 43.34±6.59 versus 39.67±4.37; p=0.032 and FLI – 79.21±19.61 versus 64.96±17.72; p=0.007). Triglyceride and glucose index (TyG) also insignificantly growth parallel to D<sub>3</sub> status worsened (p=0.175). In multivariate logistic regression analysis According to the results obtained, regardless of the transaminases activity HSI (Nagelkerke R<sup>2</sup>=0.215) and FLI (Nagelkerke R<sup>2</sup>=0.163) were associated with vitamin D<sub>3</sub> deficiency. According to other logistic models, HSI and TyG indices (Nagelkerke R<sup>2</sup>=0.358) as well as body mass index (BMI) and T2D duration (Nagelkerke R<sup>2</sup>=0.328) were independent predictors associated with D<sub>3</sub> deficiency in this cohort of patients.

**Conclusions:** Hepatic steatosis indices (HSI, FLI and TyG) independently from anthropometric parameters and transaminase activity associated with D<sub>3</sub> deficiency in NAFLD patients. This study determines the positive efficacy of vitamin D supplementation for diabetic patients with NAFLD.