



**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
ЗАПОРІЗЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ**

## **ЗБІРКА ТЕЗ**

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**«СУЧАСНІ ПИТАННЯ**

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## **PERSONAL PROFILES OF FASTING GLUCOSE AS EARLY INDICATORS THAT ANTEDATE SYMPTOMATIC DIABETES MELLITUS**

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**Introduction.** Diabetes mellitus (DM) is a chronic and complex metabolic disease characterized by varying degree of hyperglycemia as a main laboratory characteristic. This condition must be detected early for timely and proper treatment as well as prevention of its microvascular and macrovascular complications. The diagnosis of DM is based on the abnormally high levels of glycemia detection. This task may appear to be simple on the face of it, but should not be underestimated. A large number of different clinical situations such as pregnancy or acute critical illness may hamper the interpretation of laboratory tests results. However, population-based norms of glucose levels do not enable the detection of DM at an early enough stage to thwart complications. Personal profiles of glucose levels show steep increases a number of years prior to DM final diagnosis.

**The main purpose:** to clarify that a comparable time-dependent deviation in an individual blood glucose level may be an early manifestation of the disease in rats with streptozotocin-induced (STZ) DM.

**Materials and methods.** A total of 48 adult male Wistar rats (250-270 g) bred in the PE "Biomodelservis" (Kyiv) were used in the study. All the animals were housed in a controlled environment (temperature 22°C on a 12:12-h light-dark cycle with standard laboratory food and tap water ad libitum. After acclimatization, in all overnight-fasted animals except the control, DM was induced by a single intraperitoneal injection of STZ (SIGMA Chemical, USA) in a dose of 50 mg/kg freshly prepared in 0.1 M citrate buffer (pH 4.5). Blood was withdrawn from tail vein for glucose (glucometer GlucoCard-II, Japan) measurements following the indications of the manufacturer. Rats with fasting blood glucose of > 12 mmol/l were considered diabetic.

**Results.** STZ-induced DM led to basal hyperglycemia of varying degree in rats. The severity and duration of hyperglycemia have been shown to influence the diabetic symptoms manifestation.

**Conclusions.** Analysis of personal profiles of blood glucose will promote earlier diagnosis, intervention and a greater reduction in DM complications than current standards, which are based on population-based norms.

**Key words:** Diabetes mellitus, diagnosis, prevention, blood glucose, hyperglycemia.

## **THE FREQUENCY OF DETECTION OF NONTUBERCULOUS MYCOBACTERIA IN HIV-INFECTED PATIENTS IN ANTI-TUBERCULOSIS CLINICS IN THE DNIPRO REGION**

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**Objective.** In recent years among HIV-infected patients there has been an increase not only tuberculosis, but also mycobacteriosis, the causative agents of which are nontuberculous mycobacteria (NTM). The real situation with the prevalence of NTM in Ukraine and in the Dnipro region is unknown.

**The aim of the work** was to determine the frequency of detection and characteristics of non-tuberculous mycobacteria in HIV-infected individuals with suspected pulmonary tuberculosis who were examined in the regional TB center.

**Materials and methods.** We analyzed the results of laboratory methods (microscopy, molecular genetic method GeneXpert ®MTB/RIF, culture methods on Middlebrook liquid and Lowenstein–Jensen solid medium) for the study of sputum, bronchial lavage in patients which were examined and / or treated in our clinics during the period from 2015 to 2019. The efficacy of various laboratory diagnostic methods in patients was compared depending on HIV status.