



CUTTING-EDGE SCIENCE 2024

international scientific and practical conference



2024 SHAWNEE, USA

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2024 Shawnee, USA

Conference Proceedings

Primedia E-launch

Shawnee, USA

JULY DECEMBER 2024

Part-2

PRIMEDIA E-LAUNCH

International scientific and practical conference

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Science editor: G. Kolne

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Available at <https://virtualconferences.press/> Published
Primedia E-launch LLC.

Shawnee, USA

ISBN 978-1-64945-234-4

DOI <https://doi.org/10.5281/zenodo.14159780>.

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Pancreas pathomorphology in Covid-19.

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Introduction: Today, diabetes mellitus is classified as a risk factor for the development of severe forms of COVID-19 and its worsening, as well as increased mortality rates. The risk of developing severe forms and complications of the disease varies from 9.2% to 16.2% and depends on the following factors: age (over 60 years old), the presence of a concomitant chronic disease, glycemic control (diabetes the decompensation phase and high blood glucose cause dysfunction in the immune system, which increases the risk of death from infectious diseases and COVID-19 by 2 times).

Aim: to determine the pathomorphological changes and morphometric parameters of the endocrine and exocrine pancreas in COVID-19.

Materials and methods: A total of 216 corpses that died of COVID-19 infection received as material for the study were analyzed by gender: 109 (50.5 percent) were male and 107 (49.5 percent) were female.

Clinical and anamnestic method of analysis of medical documents, general morphological examination of the pancreas by staining with hematoxylin and eosin, connective tissue according to Van-Gieson, mucopolysaccharides according to the reaction of SCI, elastic fibers according to Weigert, histochemical methods of studying reticular fibers were used in Fut. G.G. The components of the pancreas were studied morphometrically by Avtandilov's "point counting" method. The obtained digital data were statistically processed.

Results:

The process of pregnancy and childbirth was studied, the histological examination of placentas was carried out. Depending on PE disease and its severity, 3 groups were defined: 1st group (control) - 10 women, pregnancy without PE disease; Group 2 - 13 pregnant women with moderate PE; Group 3 - 13 pregnant women with severe PE. The age of women in group 1 was 27.00 ± 1.67 years, group 2 - 27.63 ± 1.05 , and group 3 - 30.36 ± 1.64 years.

The pathomorphological part of the work was performed in the Department of Adult Pathology of the Republican Pathological Anatomy Center. 10 placentas from women in group 1, 14 placentas from group 2 (2 placentas from biamniotic bichorial twins), 16 placentas from group 3 (2 placentas from bichorial biamniotic twins, trichorial triamniotic twins 3 satellites) was studied. Histological studies were performed on paraffin-embedded sections (hematoxylin and eosin-stained) at x400 magnification in 10 randomly selected fields of view using an eye grid and pointcounting volumetric method [1].

Results and discussion

The results of the analyzes of the main diseases of the pancreas pathology in the infection of COVID-19 and its complications, the results of the analysis of the causes of death showed that among the diseases of the coronavirus infection, acute pancreatitis accounted for 30, chronic pancreatitis accounted for 11, pancreas gland insufficiency - 15 cases, pancreatic pseudocysts - 5 cases, and diabetes mellitus - 11 cases.

3 main causes of death of the patient were identified, namely 1- "pulmonary edema", 2- "sepsis" and 3rd "TELA". The 2nd cause was found only in diseases of the pancreas.

Conclusions.

In this study, clinical and morphological data of 216 patients who underwent autopsy in 2020-2022 at the Center of Pathological Anatomy of the Republic were analyzed. The aim of the study was to determine the morphological and morphometric changes in the pancreas during coronavirus infection.

According to the distribution of patients by gender and age, 50.5% of the 216 patients participating in the study were men and 49.5% were women. Also, when analyzing the duration of treatment of patients in the hospital, it was found that the majority of patients (29.2%) died within 0-1 days.

In the distribution by age groups, patients aged 61-70 were the most common (22.2%). Also, patients aged 51-60 years and 31-40 years old are also highly identified.

Lung tumors, sepsis and thromboembolism are among the main causes of death. These results suggest that COVID-19 infection can also cause serious changes in pancreatic tissue.