

and anticrystal-forming effect of siliceous waters, and other effects of their internal use were studied. A differentiated approach to the use of MW allows early correction of functional reserves of the organism on the stage of dysfunction and metabolic imbalance, thus preventing the progression of the disease.

**Conclusions:** It was shown that natural MW are available, inexpensive, effective and flexible methods that can be an important component of treatment programs and long-term rehabilitation of patients with chronic non-infectious pathology.

## POSSIBILITIES FOR BICARBONATE SODIUM MINERAL WATERS USE IN THE COMPLEX TREATMENT OF PATIENTS WITH TYPE 2 DIABETES MELLITUS

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**Introduction:** The correction of functional-metabolic disorders in patients with diabetes mellitus (DM) and comorbid gastroenterological pathology remains a complex problem of preventive medicine.

**Objectives:** Elevation the effectiveness of treatment and prophylaxis of functional and metabolic disorders in patients with DM comorbid with chronic gastroenterological pathology.

**Methods:** The effects of bicarbonate sodium mineral waters (MW) of different mineralization on the function of digestive organs and kidneys was evaluated in the series of single-dose studies in 70 healthy individuals and 10 patients with DM type 2. Results of the 24-days course of MW Polyana Kupil internal use on the background of basic hypoglycemic therapy in 50 patients with DM type 2 were studied. Blood glucose, urine  $\alpha$ -amylase levels, calculated parameters of pancreatic secretory function, urine pH, urinary excretion of titrated acids and ammonium in the fasting period and 120 minutes after nutritional load were determined.

**Results:** It was testified that middle-mineralized MW, in particular, MW Polyana Kupil, in comparison with less mineralized waters, has a significantly more pronounced activating influence on the catalytic activity of pancreatic hydrolases in vitro and pancreatotropic effects. This group of MW has also higher acid-neutralizing and systemic alkalizing effects. These effects of MW provide a decrease by 50 % the average level of blood glucose in patients with DM (from  $9,28 \pm 0,5$  mmol/l to  $6,17 \pm 0,6$  mmol/l).

## INTERNATIONAL SESSION VI

## SESJA VI MIĘDZYNARODOWA

### TRAINING, TEACHING AND RESEARCH – SESSION OF THE FRENCH SOCIETY OF THERMAL MEDICINE AND HYDROLOGY

### SZKOLENIE, NAUCZANIE I BADANIA – SESJA FRANCUSKIEGO TOWARZYSTWA MEDYCYNY UZDROWISKOWEJ I HYDROLOGII

#### UNIVERSITY TRAINING OF PHYSICIANS SPECIALIZED IN HYDROLOGY AND CLIMATOLOGY

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Education in the practice of spa medicine aims to train practitioners in the prescription and the monitoring of spa treatments, the realization of complementary spa practices, the implementation of actions such as therapeutic education,