MECHANISM OF PROGRESSION AND DEVELOPMENT OF SECONDARY OSTEOPOROSIS BY COMBINATION OF CHRONIC PANCREATITIS AND ARTERIAL HYPERTENSION

Viun T.

Kharkiv National Medical University

Diseases, the course of which is accompanied by changes in the indicators of bone tissue markers, or through increased losses of the calcium matrix, or the lack of its components for the full formation of bones, that is, they contribute to the defeat of both joints and their derivatives, and the bones themselves, were called calcium-dependent, and their course was associated with secondary osteoporosis development. Among such diseases, hypertension (H) and chronic pancreatitis (CP) are considered. The combination of H and CP potentiates two directions of calcium loss.

The aim of the work was to determine the state of calcium metabolism in patients with hypertension and CP and its influence on the development of complications.

Research methods: 70 patients with combined course of hypertension and CP, as well as 40 people with isolated CP were examined. Control parameters of blood calcium fractions were determined in 20 apparently healthy individuals. All groups were matched for gender and age. The state of calcium metabolism was determined by the biochemical method (PLIVA-Lachema reagent kit, Czech Republic). Ionized blood serum calcium (Cai) was calculated using the formula of D.I. Mitsura; simultaneously the calcium coefficient was determined (the ratio of total and ionized Ca between biological fluids).

Results: in the study of the content of total Ca in blood serum, its decrease was found both in the patients of the main group (2.32 ± 0.01 mmol/l) and in the comparison group (2.50 ± 0.01) versus the control group - 2.62 ± 0,03 mmol/l ($p < 0.05$). The Cai indicator also acquired lower measurement control (1.23 ± 0.01 mmol/l) - 1.16 ± 0.01 and 1.18 ± 0.01 mmol/l, respectively ($p < 0.05$). Such changes in the parameters of blood calcium fractions led to an increase in the calcium coefficient from 46.9 ± 0.2% to 49.8 ± 0.2% in the main group, in the absence of its fluctuations in patients with isolated CP (47.0 ± 0 3%). Calcium metabolism indices did not depend on gender, age, and duration of medical history.

Conclusions: with a combination of H and CP, quantitative disturbances increase and, according to the calcium coefficient, a redistribution of Ca occurs between cells and the intercellular space. In the absence of an adequate intake of Ca with food, its replenishment for the daily needs of the body occurs due to the bone matrix. That is, there are prerequisites for the formation of osteoporotic conditions and in order to prevent complications, with these nosological forms, it is advisable to determine the state of bone tissue already at the early stages of observation.