**MECHANISMS OF OSTEOPOROSIS PROGRESSION IN PATIENTS WITH CHRONIC PANCREATITIS**

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AIM: to determine mechanisms of osteoporosis progression in patients with chronic pancreatitis.

MATERIALS AND METHODS. 87 patients with chronic pancreatitis were examined, of them 45 with mild (fecal elastase-1 200-150 µg/g) exocrine pancreatic insufficiency and 42 with moderate (fecal elastase-1 150-100 µg/g) exocrine pancreatic insufficiency. Bone density was measured by heel ultrasound densitometry. Pancreatic exocrine function was assessed using the fecal elastase-1 test. Tumour necrosis factor-α was measured by ELISA. Statistical data has been performed on workstation by means of software “Microsoft Excel” and “Statistica 8.0”.

RESULTS. Of the 45 patients with mild exocrine pancreatic insufficiency, 14 had normal bone mineral density (T-score of -1.0 or above), 29 had osteopenia (T-score between -1 and - 2.5), and 2 had osteoporosis (T-score of -2.5 or below). In patients with moderate exocrine pancreatic insufficiency: 6, 27 and 10, respectively. The comparative analysis of the examined groups has proved the significant difference (df=2, χ2=8,604, р=0,014). Level of tumour necrosis factor-α was also different between groups: 37,2±1,1 ng/l in mild exocrine pancreatic insufficiency and 41,7±1,3 ng/l in moderate exocrine pancreatic insufficiency (p<0,05). It has been found out that severity of disturbances in bone metabolism correlates with degree of exocrine pancreatic insufficiency (r=0,885) and tumour necrosis factor-α level (r=0,673).

CONCLUSION. Thus, as a result of studies, it has been found out that the severity of disturbances in bone metabolism in chronic pancreatitis is depends on the degree of exocrine insufficiency of the pancreas, which may be reflection of vitamin D malabsorption aggravation. Also an important factor of osteoporosis progression in chronic pancreatitis is a significant intensification of the proinflammatory cytokine response, which was expressed by hyperproduction of tumour necrosis factor-α, which is also implicates in bone resorption.