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Title: The absolute risk of osteoporotic fractures according to the program of FRAX patients with chronic obstructive pulmonary disease

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Body: Bone loss may be asymptomatic, and the first sign of osteoporosis are bone fractures. Assessment of absolute risk (AR) osteoporotic fractures in patients with COPD using the FRAX computer program is of great practical interest. Objective: To examine the absolute risk of osteoporotic fractures by using FRAX method in patients with COPD. Materials and methods: We examined 108 patients with COPD. The study group comprised men with long smoking history. Mean age $60,2 \pm 5,5$ years. The study of bone mineral density (BMD) of lumbar spine and proximal femur was performed by X-ray absorptiometry at the densitometer «Lunar DPX-NT». Evaluation of ten osteoporotic fracture risk was calculated using the computer program FRAX. To calculate the risk methodology used FRAX T-score femoral neck. Results: the assessment of absolute risk (AR) of all hip fracture patients were divided into 3 groups (AR <1, AR 1-3 and AR > 3). The maximum number of patients at high risk of hip fracture observed among patients with COPD stage 4 - 84,6% ($p < 0,05$). In evaluating the 10-year probability of any major osteoporotic fracture patients were divided into 3 groups (AR <10, AR 10-20 and AR > 20). AR 10-20 major fractures in the stages 3 of COPD was observed in 15,68%, of patients with stage 4 COPD in 30,8%. These figures are significantly higher than the corresponding figures in patients with COPD stage 2 ($p < 0,05$). Conclusion: Assessment of absolute risk of fractures provides useful information to forecast the fracture in patients with COPD.