

# EARLY DIAGNOSIS OF OSTEODEFICIENCY COMPLICATIONS OF PRIMARY GOUT ON THE BACKGROUND GASTROINTESTINAL PATHOLOGY

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State of bone depends on the balance between the processes of bone resorption and formation. Using the definition of biochemical parameters of bone metabolism can evaluate activity of bone formation and resorption. Violation of bone remodeling processes contribute to the occurrence osteodeficit and steady progression of osteoporosis.

**Aim** – early diagnosis of osteodeficiency complications in patients with primary gout complicated disorders of the gastrointestinal tract (GIT).

**Materials and methods.** A complex examination of 38 patients 40-68 years (44 men and 24 women) was performed. For early diagnosis mechanism of osteodeficiency we used biochemical markers of bone homeostasis such as bone formation - the contents of the bone isoenzyme of alkaline phosphatase (BIAF) and bone resorption - tartrate resistant acid phosphatase (TRAF).

**Results.** The patients had different clinical forms of gout: asymptomatic hyperuricemia, intermittent and chronic gout. Tophi were found in 6 patients. Hyperuricemia ranged from 360 to 731 mmol/L. X-ray examination of affected joints revealed findings: moderate local osteoporosis, bone defects like vacuoles; small erosion on the articular surfaces; compaction and thickening of soft tissue, presence calcifications in the soft tissues; radiological signs of secondary osteoarthritis. Pathology of the digestive tract was presented by GERD with esophagitis and without it, gastritis and chronic colitis. We found an imbalance of bone remodeling: bone resorption gain till 17.2 % and decrease of bone formation activity till 37.4 % compared with a group of healthy individuals. We investigated the influence of the gout length on bone metabolism: TRAF had a tendency to increase with age, while a BIAF conversely decreased. Similar trends were found at influence duration of existence of gastrointestinal pathology. To investigate the influence of uric acid on bone remodeling, patients were divided into subgroups according to the degree of hyperuricemia: the value of serum uric acid of 360-600 and higher 600 mmol/l. We did not find significant difference in indicators of bone resorption in subgroups of patients with moderate and high level of hyperuricemia while BIAF content was lowest in the subgroup of patients with high values of serum uric acid (> 600 mmol/l).

**Conclusions.** Markers of bone remodelling such as indicator of bone formation (BIAF) and bone resorption (TRAF) should be used for early diagnosis of osteodeficiency in patients with gout complicated GIT pathology. The primary definition of these indicators need patients with a long history of gout and GIT disorders and patients with hyperuricemia exceeding the value of 600 mmol/L.