Abstracts

PD09-06
The frequency of AMD among the osteoporosis patients
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Background. Osteoporosis and its consequence may be regarded as a major source of mortality, morbidity and medical expenditure worldwide. On a worldwide basis, osteoporosis will become an increasing public health problem in the future because the world population is aging. NO may inhibit bone resorption, perhaps by increasing OPG production. Some ophthalmology disease (glaucoma, AMD) has the same risk factors as osteoporosis.

Purpose. To find out the frequency of AMD among the patients with osteoporosis.

Methods. 79 patients with osteoporosis aged 42–73 participated in this study. Primary osteoporosis of type 1, or postmenopausal osteoporosis, characterized by the disproportionate loss of trabecular bone, is associated with fractures at sites rich in cancellous bone such as the vertebral body and distal radius, type 2, or age-associated osteoporosis which affects all skeletal sites with both cortical and cancellous bone such as the proximal femur, is a result of senile decline in bone mass and type 3, idiopathic osteoporosis which affects premenopausal women as well as middle-aged and young men. Research method was BCVA, tonometry, ophthalmoscopy, perimeter, OCT, retinal tomograph HRT-2 produced by a firm “Heidelberg engineering”.

Results. AMD was founded in 21 patients. Most of them, was with osteoporosis of type 1 (21 patients – 52.6%), type 2–8 patients (18.1%) and only 2 (4.7%) with type 3.

Conclusions. The frequency of AMD among the patients with osteoporosis was 26.6%. More often (52.6%) this pathology was founded in postmenopausal osteoporosis patients, characterized by the disproportionate loss of trabecular bone, is associated with fractures at sites rich in cancellous bone such as the vertebral body and distal radius.

PD09-07
Changes in the level of pro-inflammatory and anti-inflammatory cytokines in patients with AMD
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Introduction. Age-related macular degeneration – a chronic, progressive degenerative disease characterized by lesions of the central area of the retina where the suffering pigment epithelium, Bruch’s membrane and choroid with subsequent involvement of photoreceptors. It is the most frequent cause of central vision reduction, irreversible blindness and disability in the elderly.

Purpose. To study the changes in the level of pro-inflammatory and anti-inflammatory cytokines in patients with AMD.

Materials and methods. We observed 80 patients (76 eyes) with the dry form of AMD. The patients were from 48 to 65 years, 46 (52.6%) men, 65 (75.8%) women. All patients underwent a standard eye examination, and also critical flicker fusion frequency (CFFF) threshold electrical sensitivity by phosphenes (TESP) and critical frequency the disappearance of flicker on phosphenes (CFFD). The level of Immunoglobulin A (IgA) were determined by immunofluorescence test using antibodies. Determination of interleukin concentration (IL-1α, IL-1β, IL-4, IL-6, TGFβ) were performed using a test systems “ProCon” and “Biomec” Russia.

Results. Visual acuity was from 0.3 to 1.0, average was 0.5±0.20. The total field of view was 58.8±5.8°. There was a reduction to the level of CFFF to 34,760±2,5 Hz, which is 20.2% lower than the control group. TESP was 94,5±1.2, which is 18% more, it was reducing of CFFD to 57.8±0.4 Hz, which was 22.6% lower than control group. It was revealed increasing of IgA level, in the tear fluid of patients to 38.9%. The concentration of proinflammatory cytokines (IL-1α, IL-1β, TNFa) was 64.2, 11.1, and 31.2%, respectively, and the content of anti-inflammatory cytokine (IL-4) decreased to 43.3%. In patients with the dry form of AMD, the concentration of TGFβ was 69.4% more. Findings. 1. there was an increase of IgA in tear and disrupted normal ratio of pro- and anti-inflammatory cytokines, 2. the concentration of TGFβ was increased and may be a criterion for evaluating the progression of the process.