P06 RELATIONSHIP OF BONE STATE AND HORMONAL STATUS IN MEN

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RELATIONSHIP OF BONE STATE AND HORMONAL STATUS IN MEN

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The aim of the study was to determine the relationship of hormonal status and bone state in men.

Materials and methods. We have examined96 men aged from 30 to 79 years (M±m): age – 54,4±1,3 years; height – 1,75 ± 0,01 m; weight – 84,9 ± 1,5 kg), divided them into age dependent subgroups 30-49 (n=36; age – 41,2±1,2 years) and 50-79 years (n=60; age – 64,4±1,1 years). Levels of testosteron (Test, nmol\l) and sex hormone-binding globulin (SHBG, nmol\l) were determined by means ofchemiluminescent immunoanalysis method. The bone mineral density (BMD, g/cm^2) was evaluated for the total body, spine (L_1-L_4), femur (neck, trochanter and total) and radius (ultradistal, 33% and total) using dual energy x-ray absorptiometry by the Prodigy instrument (GE Medical systems, 2005).

Results. The correlation analysis of age dependent sub-groups: in the group of 30-49 years there is a positive

correlation between Test and BMD ultradistal radius (r=0,49, p < 0,05), along with the negative correlation between SHBG and Total body in the group of 50-79 years (r=-0,31, p < 0,05). In the group of 60-79 years (n=38; age – 69,7±1,0 years) we have found a negative correlation between SHBG and Total body (r=- 0,60, p < 0,001), SHBG and trochanter (r=- 0,47, p < 0,05), SHBG and Total femur (r=- 0,48, p < 0,05). Patients of 50-79 year age group with normal bone, osteopenia and osteoporosis were chosen in correspondence to the WHO criteria. For analysis' sake, we have joint the osteopenia and osteoporosis patients. Normal mineral density of lumbar spine was found in 83,3%, osteopenia and osteoporosis – 17,7%, while in total femur – 75% и 25% respectively. SHBG in normal femur BMD subgroup (41,1 ± 2,6) was considerably lower than in osteopenia and osteoporosis subgroup (54,4 ± 5,6, p < 0,05).

Conclusion. We have revealed a positive correlation between testosterone levels and ultradistal radius BMD and negative correlation between SHBG and total body BMD in patients of 50 – 79 year age group, trochanter and total femur in patients of 60 – 79 year age group.