P10 QUS VERUS DXA IN DIAGNOSING BONE DEMINERALIZATION IN ESRD PATIENTS

III Środkowo Europejski Kongres Osteoporozy i Osteoartrozy oraz XV Zjazd Polskiego Towarzystwa Osteoartrologii i Polskiej Fundacji Osteoporozy, Kraków 24-26.09.2009

Streszczenia:
Ortopedia Traumatologia Rehabilitacja 2009, vol 11 (Suppl. 2), s:122-123.

P10
QUS VERUS DXA IN DIAGNOSING BONE DEMINERALIZATION IN ESRD PATIENTS

Bucuras D., Marginean O., Militaru A.

University of Medicine and Pharmacy “Victor Babes” Timisoara, Romania

Key words: *DXA, ESRD PATIENTS hypogonadism, Hyperparathyroidism*

Backgound: ESRD is associated with reduce bone mineral density compared with aged-matched healthy controls. DXA is the standard noninvasive method to asses BMD. QUS is inexpensive, mobile, easy to perform, radiation free, recognize for screening abilities and risk fracture prediction in normal population. This study assessed the ability of QUS versus DXA in determine low bone mass in haemodialised population.

Methods Material Patients in the evidence of the Haemodialysis and Renal Transplantation Center form the County Hospital nr.1, performed DXA (anteroposterior technique,

Delphi W device, Hologic Inc.), and also QUS (Sahara device, Hologic Inc.). Correlation between DXA and QUS parameters were performed. Receiver operator characteristic curves (ROC) were plotted for BUA, SOS and QUI and used to define cut-off values for best sensitivities and specificities for all parameter. WHO T score diagnosis of osteoporosis and osteopenia were used. We also used the UK NOS strategy to define the interval of the best QUS diagnostic parameter, to identify with 90% sensitivity and 90% specificity different degrees of bone demineralization.

Results: We analised 131 patients (63 females and 68 males), mean age 47,776±12, 32 years, being in haemodialysis for a mean period of mean 51,488±4,686 months. BUA (r = 0,613/0,447) and QUI (r = 0,613/0,502) seem to be the parameters of choice when considering BMD at cortical level. Areas under ROC for BUA and SOS in diagnosis of osteoporosis and osteopenia, have a sensibility of 76, 1%- 76, 1%, respectively a specificity of 72, 5%-77, 8%. The values for osteoporosis are even better, for 77% and 84%. The identified cutoff levels for QUI are 76,1 (osteopenia) and 69,6 (osteoporosis). The diagnostic value of QUS)when reporting QUI= are even higher when we did define the proper interval.

Conclusion: DXA and QUS parameters correlate significantly. The best QUS diagnostic parameter comoared to DXA is QUI. It has the ability to identify low bone mass (sensitivity of 60/80%), but also can discriminate very well the “healthy bone” subjects (specificity of 75%). Using the 90-90 approach, we identify the precise interval for QUI values that allows the best diagnostic of bone demineralization.