Conclusions: These results suggest that periodontitis associations with bone metabolic disturbances. In patients with periodontitis unbalanced bone remodeling was found: decreased bone formation. The results suggest the necessity to correct bone tissue metabolism in patients with generalized periodontitis by osteotropic medications.

PP09. MINERAL AND BONE DISTURBANCES IN PATIENTS WITH CHRONIC KIDNEY DISEASE

Liliya Martynyuk

Ternopol State Medical University.

Introduction: Patients with chronic kidney disease (CKD) frequently have disturbances in mineral metabolism, abnormalities in vitamin D. parathyroid hormone (PTH) homeostasis and bone disorders, known as CKD- MBD.

Objectives: To study the prevalence of bone and mineral metabolism disorders in patients with various stages of CKD.

Methods: We analyzed data on 220 adults with CKD aged 20-61 years. 78 (35.5%) patients with CKD II-IV stages and 142 (64.5%) patients on hemodialysis (CKD VD). BMD was measured using DEXA in L1-L4 segment and femoral neck. The laboratory investigations included PTH, vitamin D, calcium (Ca), phosphate (P) serum concentrations.

Results: The concentrations of Ca × P product and PTH were significantly higher in hemodialysis patients compared to CKD stages II-IV ones (Ca × P product 4.78 ± 0.11 vs 3.68 ± 0.18, $p < 0.01$, iPTH 601.28 ± 68.45 vs 289.10 ± 60.48 $p < 0.01$). Analyzing the compliance with KDIGO 2011 recommendations it was found that all four parameters met target levels of only in 14.1% patients with CKD II-IV stages and 3% with CKD VD stage. Vitamin D insufficiency was found in 44.9% of CKD II-IV patients and 51.4% those with CKD VD. BMD was decreased in 55.4% CKD II-IV stages patients and in 19.1% it was lower than -2.5 T SD. In CKD VD BMD was decreased in 51.1% and in 34.0% it was lower than -2.5 T SD. Negative association between decreased renal function and decreased BMD was established: GFR correlated s with spine-BMD ($r = -0.452$, $p < 0.05$).

Conclusions: In CKD patients dominant disorders of mineral metabolism are hyperphosphatemia, secondary hyperpathyroidism and 25 (OH) D_3 insufficiency. They occur in the early stages of CKD and progress with the decline of renal function, especially in hemodialysis and result in bone loss.

PP10. TRIKS AND PITFALLS IN DXA INTERPRETATION

Jorge Morgado Ferreira

Radiologia.

Introduction: Many factors can cause wrong results and incorrect interpretations in DXA. Assuming that a quality control program of the equipment is working, the causes rely mainly in the patient or in the interpretation.

Objectives: Identifying causes of reanalysis and repetition of DXA analysis in an outpatient practice.

Methods: We reviewed all the DXA examinations done in 6185 patients, made in 2 sites, with LUNAR DPX equipments, by a team of 12 technologists. Examinations were reported by two consultant radiologists (and also certified clinical densitometrists). Correlation with other imaging modalities (X-ray, CT, MR) was available on PACS in many cases.

Results: Being this poster a *pictorial assay*, the total number of cases or the full distribution are not relevant. We will present the more frequent identified errors and other rare ones: errors in data introduction, patient artefacts, anatomy variants, deficient position and coexisting diseases or therapeutic instrumentations (and not forgetting analysis mistakes...) The main objective in this presentation is to learn with our mistakes.

Conclusions: Particular care in checking that patient has really removed all artefacts and that hasn't done (or is going to make) another imaging technique. Don't rely in equipment anatomical detection. Any abnormal discrepancy should be checked and eventually additional X-ray image be done. We hope that this pictorial assay can help reduce the number of second examinations and difficult interpretations and alert to potential error situations.

PP11. TBS IN FRAGILITY FRACTURE RISK ASSESSMENT

Vladyslav Povoroznyuk

D.F. Chebotarev Institute of Gerontology NAMS Ukraine Kyiv.

Objectives: The aim of the study was to evaluate the Bone Mineral Density (BMD), Trabecular Bone Score (TBS) and the 10-year probability of major osteoporotic fracture and hip fracture in healthy men of different ages.

Methods: We've examined 300 men aged 40-89 years. They were divided into groups depending on their age: 40-49 yrs (n = 52), 50-59 yrs (n = 86), 60-69 yrs (n = 89), 70-79 yrs (n = 59), 80-89 yrs (n = 14). The 10-year probability of hip fracture and the 10-year probability of major osteoporotic fracture risk were calculated by Austrian, Polish and Russian FRAX® models. BMD of whole body, PA lumbar spine and proximal femur were measured by DXA method (Prodigy, Lunar) and PA spine TBS were assessed by TBS iNsight® software package installed on the available DXA machine (Med-Imaps, Pessac, France).

Results: We have observed a significant increase of 10-year probability of major osteoporotic fracture in men aged 80-89 yrs ($p < 0.01$) by Russian FRAX® model, 60-89 yrs ($p < 0.01$) – Austrian FRAX® model, 70-89 yrs ($p < 0.01$) – Polish FRAX® model in comparison with men aged 40-49 yrs. 10-year probability of hip fracture was significantly increased in men aged 70-89 yrs in comparison with men aged 40-69 yrs ($p < 0.01$). It was determined the significant decreasing of TBS in men according to their age (40-49 yrs – 1.116 ± 0.02, 50-59 yrs – 1.111 ± 0.02; 60-69 yrs – 1.118 ± 0.02; 70-79 yrs. 1.062 ± 0.02, 80-89 yrs – 1.080 ± 0.05; $F = 2.42$, $p = 0.048$). TBS in men was significantly higher in subject with normal BMD (1.121 ± 0.01) compared with patient who osteoporosis – 1.066 ± 0.03 ($p = 0.04$). The significant correlation was observed between TBS and BMD L1-L4 in examined men ($r = 0.12$; $p = 0.03$). There wasn't any correlation between TBS and BMD of femoral neck.

Conclusions: TBS significantly decreased with ageing. Subjects with osteoporosis have significantly lower TBS compared with normal BMD examined. It was found a significant correlation between TBS and BMD L1-L4.

PP12. TRABECULAR BONE SCORE IN PORTUGUESE POPULATIONS

Mário Rui Mascarenhas[1-3], Ana Paula Barbosa[1-3], Nuno Duarte[4], Ana Wessling[3], Carolina Farias[3], Ana Raquel Gomes[3], Raquel Paixão[3], Catarina Silvestre[3], David Barbosa[3], Francisco Sampaio[4], Jacinto Monteiro[5], Didier Hans[6]

[1]Endocrine & Metabolism University Clinic (FMUL); [2]Osteoporosis Unit, CEDML, Lda., Fracturary Osteoporotic Out-Patient Clinic; [3]Endocrinology, Diabetes and Metabolism Department; [4]Medical Rehabilitation Department; [5]Orthopedics Department, Santa Maria University Hospital, CHLN-EPE, Lisboa. [6]Center of Bone Diseases, Lausanne University Hospital, Lausanne, Switzerland.

The bone strength is mostly dependent on bone mineral density and microarchitecture (quality). The BMD by DXA scan is the gold