

aim of this study is identify the obstacles in educating the patients in management of their joint pain and then getting their consent for the appropriate treatment. During a period of 10 y (from July 2009 to December 2019) over 2000 patients were assessed, investigated and counselled for various treatment options. 185 patients underwent knee joint Arthroplasty, 6 patients required hip joint arthroplasty, 36 patients underwent arthroscopy of the knee joint, 3 required metal work removal from previous surgery. The others underwent non operative management. Follow-up has revealed wound dehiscence in one case, no deep infections or loosening of the prosthesis. One patient has had to undergo revision knee replacement due to late presentation of quadriceps tendon rupture.

Arranging follow-up of these patients was difficult for many reasons.

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A RETROSPECTIVE OBSERVATIONAL STUDY TO ESTIMATE PREVALENCE OF FRAGILITY FRACTURES IN SPANISH PRIMARY CARE (PC) (PREFRAOS STUDY): RESULTS FROM THE FIRST PATIENTS AND PARTICIPATING CENTERS

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Objective: Estimate the prevalence of fragility fractures among subjects ≥ 70 years old seen in Spanish PC and describe risk factors, and OP diagnosis and treatment in subjects with at least one fragility fracture.

Methods: Observational, retrospective chart review in Spanish PC centers. The study comprises of two phases (A and B). Phase A includes subjects ≥ 70 years old listed in the participating center's medical records from November 2018-January 2020. Phase B selects approximately 20 consecutive consented subjects per center with a recorded fragility (osteoporotic) fracture (defined as a 'low energy' trauma) and prior consultation at the center for any reason. Phase A will estimate the prevalence of fragility fractures in the PC setting. Phase B will describe the main characteristics of OP (risk factors, diagnosis and non-pharmacological /pharmacological interventions) in subjects with at least one fragility fracture. We will report interim data from the study.

Results: 37 PC centers in 15 Spanish Regions will participate. As of 2 December 2019, 26 centers had started the study. Of 37,984 medical records reviewed in Phase A, 20.9% (7944) subjects were ≥ 70 years old and the majority were women (4787 [60.3%]). Among all subjects ≥ 70 years old, 17.8% (1412/7944) had a fragility fracture and were eligible for Phase B. The majority of eligible patients (1172/1412 [83.0%]) were women. 367 (45.9%) of the planned 800 subjects have been enrolled into Phase B (303/367 [82.6%] women).

Conclusion: This observational, retrospective, chart review will estimate the prevalence of fragility fractures in subjects ≥ 70 years old seen in Spanish PC centers, and provide data on the sociodemographic characteristics, risk factors, OP diagnosis and treatment after a fragility fracture in this population.

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ASSOCIATION OF SERUM FETUIN-A LEVELS AND RHEUMATOID ARTHRITIS CLINICAL AND IMMUNOLOGICAL FEATURES

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Objective: Rheumatoid arthritis (RA) is one of the most common rheumatic diseases. In order to improve the understanding of RA pathogenesis and diagnostic and therapeutic approaches numerous studies are performed [1]. In recent years the role of tissue cytokines, such as fetuin-A (FA), is thoroughly investigated [2]. This study aimed to determine the association between serum FA levels and RA clinical and immunological features.

Methods: This study included 140 patients, who were divided into 2 groups including 110 patients with RA and 30 healthy individuals. Serum FA was measured in each group using an ELISA. C-reactive protein (CRP), rheumatoid factor (RF), antibodies against cyclic citrullinated peptides (anti-CCP), urines cartilaps and creatinine were measured in group with RA. All data performed

Results: The references for FA were 653.55-972.19 $\mu\text{g/ml}$ determined from healthy controls. All patients were divided into two subgroups. Subgroup 1 consisted of 23 patients with low FA levels ($\leq 653.55 \mu\text{g/ml}$). Subgroup 2 included 87 patients with normal level of FA ($>653.55 \mu\text{g/ml}$). Patients with low FA were more often positive on anti-CCP (95% vs. 58%, $\chi^2=10.63$; $p=0.0049$), had higher disease activity ($\chi^2=19.39$; $p<0.001$), x-ray stages ($\chi^2=9.43$; $p=0.023$), functional status ($\chi^2=12.384$; $p=0.0061$) and complications ($\chi^2=18.56$; $p<0.001$). These data was obtained by using chi-square analysis. Patients with low FA level had significantly higher concentration of CRP (31.1 ± 24.8 vs. $13.4 \pm 16.7 \text{ mg/l}$ respectively; $F=16.4$; $p<0.001$) and urine CartiLaps/creatinine (598.9 ± 223.7 vs. 481.1 ± 226.9 respectively; $F=4.924$; $p=0.028$).

Conclusion: The low FA level associates with the presence of anti-CCP, higher disease activity, x-ray stages, functional status and complications of RA, as well as higher serum CRP levels and cartilage destruction rate.

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THE BELGIAN BONE CLUB 2020 GUIDELINES FOR THE MANAGEMENT OF OSTEOPOROSIS IN POSTMENOPAUSAL WOMEN

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Objective: To provide updated evidence-based guidelines for the management of osteoporosis in postmenopausal women in Belgium.

Methods: The Belgian Bone Club (BBC) gathered a guideline developer group. Nine “Population, Intervention, Comparator, Outcome” (PICO) questions covering screening, diagnosis, non-pharmacological and pharmacological treatments, and monitoring were formulated. A systematic search of Medline, the Cochrane Database of Systematic Reviews, and Scopus was performed to find network meta-analyses (NMA), meta-analyses (MA), systematic reviews (SR), guidelines, and recommendations from scientific societies published in the last 10 years. Manual searches were also performed. NMA were considered as the highest level of evidence. Summaries of evidence were provided, and recommendations were further validated by the BBC board members and other national scientific societies experts.

Results: Of the 3840 references in the search, 333 full texts were assessed for eligibility, and 129 met the inclusion criteria (11 NMA, 79 MA, 12 SR, and 27 guidelines). Osteoporosis screening using clinical risk factors should be considered. Vertebral, pelvis, hip, femur, humerus, radius/ulna, and age-dependent wrist fracture were considered as major osteoporotic fracture (MOF). Patients with a recent (<2 years) major osteoporotic fracture were considered at very high and imminent risk of future fracture. A DXA BMD T-score ≤ -2.5 or a threshold for 10-year risk of MOF $\geq 20\%$ and of hip fracture $\geq 3\%$ (<70 years) or $\geq 5\%$ (≥ 70 years) was used to categorize patients as high risk. Patient education, the combination of weight-bearing and resistance training and optimal calcium intake and vitamin D status were recommended. Antiresorptive and anabolic osteoporosis treatment should be considered for patients at high and very high fracture risk, respectively. Follow-up should focus on compliance, and patient-tailored monitoring should be considered. Expert voting results: 12 strong and 13 weak recommendations were formulated.

Conclusion: The BBC 2020 guidelines provide updated algorithms for evidence-based clinical management of osteoporosis in postmenopausal women.

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HOW USEFUL IS TBS FOR FRACTURE RISK ASSESSMENT IN CLINICAL PRACTICE?

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Objective: TBS (trabecular bone score) is a simple method that estimates fracture risk based on a determination of bone texture (an index correlated to bone microarchitecture). The predictive ability of TBS is independent of FRAX (fracture risk assessment tool) clinical risk factors and femoral neck BMD values. We analyzed the difference of low/high-risk groups assessment by comparing FRAX with BMD and FRAX adjusted for TBS.

Methods: we retrospectively analyzed a total of 168 scans of women aged between 65-75 years old, from authors' DXA database, with no other medical records. Using DXA scan (with Lunar IDXA) we extracted bone composition parameters: spine and hip T-score, FRAX with BMD and FRAX after TBS for major osteoporotic fracture (MOF) and hip fracture. We analyzed the obtained data using IBM SPSS Statistics 20.

Result: A total of 168 scans of postmenopausal women (mean age 69.72 \pm 2.993) were included in our study, from which 57 of them (33.92%) had

spine/hip T-score consistent with osteoporosis diagnosis (T score ≤ -2.5 DS), 78 (46.42%) with osteopenia and 33 (19.64%) had normal osteodensitometric parameters. We considered high-risk patients those whom 10-year probability of hip fracture was $\geq 3\%$ and $\geq 20\%$ for MOF. In the high-risk for hip fracture group there were initially 39 patients but after the FRAX with TBS analyze, 3 of them were considered low-risk; meanwhile no changes were seen for 10-y MOF risk between FRAX with BMD and FRAX with TBS in the 4 high-risk patients. Among the 130 patients that were considered low-risk for hip fracture by FRAX with BMD, 4 of them (3.07%) entered the high-risk group after TBS FRAX adjustment. Regarding the low-risk MOF fracture, no patient crossed between the two risk groups after the analyze of the two risk assessment tools.

Conclusion: In our study, TBS provided more valuable information on hip fracture probability rather than on MOF. The relatively small number of patients that crossed the 3% threshold may be justified by the fact that we only included patients with primary osteoporosis, which generally involves lower impact on bone quality.

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MUSCLE STRENGTH REDUCTION IN PATIENTS WITH COMBINED COURSE OF DIABETES MELLITUS AND OSTEOPOROSIS

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Objective: Among patients with diabetes mellitus (DM), the prevalence of osteoporosis (OP) reaches almost 35%, which increases the risk of complications and impairs the quality of life. Modern ideas about the mechanism of development of this comorbidity are the influence of prolonged hyperglycemia and insulin resistance on the function and quantity of osteoblasts, vitamin D metabolism and accumulation of AGE-products that are embedded in the bone matrix and thus damage it. At the same time, patients with a combined course of DM and OP, have normal values of BMD index. Therefore, predicting the development of low-traumatic fractures for this category of patients remains an important problem and requires finding new and sensitive markers. **The purpose** of the study was to observe the lower limbs muscular strength and to determine the prognostic importance of its decrease in patients with combined course of DM and OP.

Methods: 45 postmenopausal women with type 2 diabetes were examined, among them 25 had concomitant OP (main group). The remaining patients were included in the control group (20 people). The average age of the main group was 66 \pm 2.8 y, the duration of diabetes was 6.8 \pm 1.2 y. By age and duration of disease the groups under comparison were statistically equipotent. The lower limbs muscular strength was measured by a dynamometer; glucose level, HbA1c and insulin resistance index (HOMA-IR) by standard biochemical techniques; BMI by the ratio of weight to twice the height; BMD was measured according to the results of X-ray densitometry; 10-y risk of low-traumatic fractures by FRAX scale. The statistical analysis included the determination of the Mann-Whitney criterion and Spearman rank correlation.

Results: The lower limbs muscle strength of patients in the main group was significantly lower than of the control one, and was 55.6 \pm 15.4 kg ($p \leq 0.05$). Glucose and HbA1c did not show a statistical difference between the groups, but the HOMA-IR was significantly higher in the group of patients with OP and was 2.4 \pm 0.6 ($p \leq 0.05$). Patients of the main group showed a decrease in BMD, which had a trend pattern ($p = 0.059$). There was no significant difference among the two groups under the survey in terms of the 10-y risk of low-traumatic fractures. At the same time,