AB0829

OSTEOGENESIS IMPERFECTA : EVOLUTION OF THE BONE MINERAL DENSITY AND EVALUATION OF FRACTURE RISK UNDER BISPHOSPHONATES

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Background: Osteogenesis imperfecta (OI), or Lobstein's disease, also known as 'Glass bone disease' is a rare genetic disorder predisposing to low bone mass with impaired bone microarchitecture and abnormal quality of bone material, causing fracture susceptibility and bone deformities.

Objectives: The main objective of our work was to study the clinical and para-clinical characteristics, and global management, of adult patients and children with OI in a rheumatology department by comparing them with data from the literature.

The secondary objectives were to study the evolution of the bone mineral density and to evaluate the fracture incidence under treatment by Bisphosphonates.

Methods: This is a cross-sectional, observational, descriptive, analytical and monocentric study of subject with OI followed at Fattouma Bourguiba University Hospital in Monastir, Tunisia

Results: We collected 13 patients with OI, including 5 children and 8 adults. Seven patients were female and 6 were male, including 12 patients with type IB and one with type IIIB. Three adult patients had a family history of OI. For children, it was sporadic and the genetic survey did not reveal similar cases in the family. The mean age of clinical onset of the disease was 9 years and 3 months [0-33 years] with a mean age at diagnosis of 15 years and 7 months [14 months- 40 years]. The clinical manifestations were dominated by osteo-articular symptoms. Chronic mechanical bone pain related to fractures was present in eight patients. Twelve patients had a history of fracture. These were repeated fractures without trauma or minimal trauma the majority of cases mainly in the lower limbs. The first fracture site was the femur associated with other fracture sites (there were no fractures in the pelvis, hands and skull). Deformities were observed in 7 patients, mainly in the limbs (6 patients), in the spine (2 patients) and in the thorax (1 patient).

In our study the frequency of osteoporosis and/or osteopenia regardless of the measured site and using the T-score value for women ≤ 2.5 and the Z-score ≤ 2 for children and men was 84.62%. All patients received Aredia treatment according to Glorieux's protocol with calcium and vitamin D supplementation. The treatment was also multidisciplinary. Bisphosphonate treatment was well tolerated for the majority of patients. There was a decrease in the number of fractures and also a densitometric gain objectified for the majority of patients.

Conclusion: Our results confirm the efficacy of BP in patients with OI regardless of age group. Short-term adverse are rare and transient.

REFERENCE

- [1] R. Morello, Osteogenesis imperfecta and therapeutics, Matrix Biol. (2018). doi:10.1016/j.matbio.2018.03.010.

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AB0830

CG AND DMARDS INDUCED BMD CHANGES IN PRE-, POSTMENOPAUSAL WOMEN AND MAN WITH RHEUMATOID ARTHRITIS (RA)

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Background: Risk factors for GC-induced fracture include low bone strength at the beginning of GC treatment and the rate of decline in bone mass during treatment, which is largely determined by the dose and duration of GC use [1]. The absolute risk of future fracture in an individual is substantially influenced by demographic and other characteristics (age, race, sex, and concomitant OP risk factors). For these reasons, it is important to identify differences in BMD changing depends on sex and reproductive status.

Objectives: To compare the BMD changes in man, pre- and postmenopausal women with RA depends on different treatment regimens.

Methods: The study was performed on 145 patients: 117 women (mean age 45.4 $\pm$ 13.0 years, mean disease duration 9.7 $\pm$ 7.7 years, 41% (n=48) postmenopausal) and 28 man (mean age 45.5 $\pm$ 17.5 years, mean disease duration 5.7 $\pm$ 4.8 years) with RA. Female patients were divided in two

groups by menopause: premenopausal (PreM) in mean age 36.9 $\pm$ 9.3 years and postmenopausal (PM) in the mean age 57.6 $\pm$ 5.9 years. 68.4% women and 64.3% man received prednisolone ≤ 10 mg/day during 5.67 $\pm$ 4.82 and 3.5 $\pm$ 5.9 years respectively. 60.7% of men received MTX, 50% in combination with CGs. Among the women group 87% PreM patients received MTX, 58.3% in combination with GCs and 46.4% with biologics. 85.4% PM women took MTX, 68.8% in combination with GCs and 33.3% - with biologics. BMD was measured in 3 part of the skeleton: hip (total and neck), lumbar spine, distal part of forearm.

Results: BMD was decreased in 44.5% of women and 42.9% of man. BMD of hip, lumbar spine, distal part of forearm were respectively decreased in 26.1%, 26.1%, 18.8% PreM women and 66.7%, 70.8%, 79.2% PM women. 39.3% of man had decrease BMD in the hip and 42.8% - in the lumbar spine. According to logistic regression in all women group the fact of CG intake was strong associated with BMD decrease in the hip (total and neck) and lumbar spine ($r=-0.25$, $p<0.05$), in man no association with the fact of CG intake was found. The effect of CGs on BMD in man was cumulative dose dependent, negative correlation between treatment duration and low hip neck ($r=-0.44$, $p<0.05$) and lumbar spine BMD ($r=-0.5$, $p<0.05$) was detected. In PreM women only association between CG therapy and decreased total and neck hip BMD ($r=-0.33$, $p<0.05$) was detected, any relationship with cumulative dose and treatment duration wasn't found. Only in PM patients BMD decreasing depends on average cumulative dose and treatment duration. MTX intake was negatively correlated with BMD only in PM women in total hip and lumbar spine ($r=-0.37$, $p<0.05$) and in men in the distal part of forearm ($Z=-2.46$, $p<0.05$). In PM women BMD in total hip and distal part of forearm was significantly higher in MTX+CG+biologics group than without biologics ($r=0.38$, $p<0.05$). The level of PTG was significantly higher in PM patients on GCs and was negatively correlation with cumulative dose ($r=-0.77$, $p<0.05$). In PreM women GCs intake was negatively correlated with C-TP level ($r=-0.37$, $p<0.05$) and positively with RANKL level ($r=0.35$, $p<0.05$).

Conclusion: A sexual differences in BMD changes during different treatment regimens was observed in different parts of the skeleton. In man BMD lost in hip and lumbar spine depends on GCs treatment duration and on in the distal part of forearm on MTX intake. In PM women BMD decreasing was strong associated with GC and MTX cumulative dose and treatment duration.

REFERENCE

- [1] Lenore Buckley, Gordon Guyatt, Howard A. Fink, et al. 2017 American College of Rheumatology Guideline for the Prevention and Treatment of Glucocorticoid-Induced Osteoporosis Arthritis Rheum Vol. 69, No. 8, August 2017, pp 1521–1537.

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AB0831

PERSPECTIVE ON THE CLINICAL PRACTICE MANAGEMENT OF HYPOVITAMINOSIS D FROM A MEETING OF ITALIAN EXPERTS

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Background: Scientific interest in the clinical aspects surrounding vitamin D has increased exponentially in recent years. Unfortunately, this interest is not currently associated with a proportional level of consensus. Indeed, the large number of studies in this field, which are often of low quality and secondary importance has confused even experts and driven them towards controversial positions.

Objectives: To shed light on this topic, we arranged a meeting with the aim of collecting the opinions of 50 experts in different specialties ("D.. Battito Group"), including internists, endocrinologists, rheumatologists, pediatricians, geriatricians, dermatologists, gynecologists and nephrologists. This meeting dealt with specific questions regarding the management of hypovitaminosis D and aimed to investigate the opinions of Italian experts on this topic. Six key questions were addressed in the meeting.

Methods: After a short lecture and a 30 minutes discussion, all the experts expressed their opinions, which were recorded together with any specific commentary.

Results: The results of the meeting demonstrated the presence of insufficient agreement on many key questions regarding the management of vitamin D deficiency, even among clinical experts.

Conclusion: We hope that the various scientific societies will recognize and analyze the inconsistencies in their own positions and reach adequate consensus, especially on the tenets required for conducting proper and useful investigations on the topic, and that the results of these future new studies will be able to shed the needed light.

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AB0832 VERTEBRAL PAIN AND PHYSICAL PERFORMANCE INDICES IN POSTMENOPAUSAL WOMEN WITH VERTEBRAL FRACTURES DEPENDING ON PRESENCE OF OBESITY

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Background: Vertebral fractures (VFs) are important osteoporotic fractures which manifest increased morbidity and mortality; however, their clinical features usually differ. Obesity is one of the important parameters of risk of osteoporotic fractures and vertebral pain syndrome.

Objectives: The aim of the research was to study the indices of vertebral pain (VP) and physical performance (PP) in postmenopausal women with VFs depending on presence of obesity.

Methods: We examined 87 females aged 50-89 years old with VFs in thoracic and/or lumbar spine which were divided into 3 groups: I – patients with normal weight (NW), according to WHO criteria, n=32; II – women with overweight (OW), n=37; III – females with obesity (OB), n=18. The parameters of VP in thoracic and/or lumbar spine were measured by 11-component visual analog scale (VAS), the indices of PP using static and dynamic functional tests (Thomayer, Schober tests, chest excursion, lateral trunk lean, 3-, 4-, 15-meter tests, "stand up from the chair", static balancing). Bone mineral density (BMD) was measured by DXA (Lunar, Prodigy).

Results: We have found the significantly higher parameters of BMD of femoral neck and lumbar spine in women with VFs and OB compared to females with NW. However, we did not establish any reliable differences of VP neither in thoracic nor in lumbar spine depending on obesity presence. Also, we did not reveal the significant differences of most parameters of PP, except for the indices of chest excursion (mean parameter, of the inhalation and exhalation) which were reliably higher in patients with OB.

Conclusion: In conclusion, the indices of VP and PP do not differ in postmenopausal women depending on obesity presence, except for chest excursion that should be taken into account in rehabilitation programs for females with VFs.

Disclosure of Interests: None declared

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AB0833 BONE TURNOVER MARKERS – DO THEY HAVE A ROLE AS PREDICTORS OF MORTALITY AND NEW FRACTURE IN PATIENTS WITH FRAGILITY HIP FRACTURE?

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Background: In Osteoporosis (OP), bone turnover markers (BTM) are potential monitors of drug adherence/efficacy as well as predictors of bone loss and fracture risk. However, without solid evidence, international guidelines still do not recommend their systematic measurement to assist treatment decision and follow-up.

Objectives: To evaluate the predictive value of baseline BTM (beta cross-laps – bCL; osteocalcin – OC) in the outcome (death and/or new fracture) of patients that suffered a fragility hip fracture (FHF).

Methods: Patients referred to a Fracture Liaison Service from March 2015 until March 2017 with a FHF were considered for this study. Clinical/demographic variables were collected, including: age at time of fracture, sex, serum OC and serum bCL at baseline and outcome (death, new fracture, lost to follow-up) until January 2018. Cox regression analysis was used to calculate hazard ratios (HR) for values of OC and bCL; p<=0.05 was considered statistically significant.

Results: From a total of 522 patients, 218 presented a baseline measurement of OC and/or bCL and were included for analysis. Table 1 summarizes clinical and demographic characteristics of the sample. Twenty seven patients died (median days until death=457, min 160, max 1049) and 18 had a new fracture (median days until refracture 343.5, min 30, max 835); 129 patients maintained follow-up. Median serum bCL was