significant number of our patients. The KDIGO guidelines offer a framework to work with our renal colleagues, as many patients will be jointly managed.

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AB0892

PREGNANCY AND LACTATION ASSOCIATED OSTEOPOROSIS: FIRST CASE SERIES IN IRAN

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Background: Osteoporosis is a common rheumatologic disorder in postmenopausal women which could lead to morbidities later in life. However, this condition has not been properly studied in premenopausal women.

During pregnancy, the fetus needs a total of 30 grams of calcium for its skeleton and during lactation, 200mg of calcium is secreted in the breast milk per day which the mother acquires by doubling its intestinal absorption rate. If the calcium intake of the mother is not sufficient to satisfy the fetus' needs, it will be provided by bone resorption, which will decrease the maternal calcium reserves [1].

Pregnancy and Lactation Associated Osteoporosis (PLAO) is a rare condition associated with pregnancy that should be considered in premenopausal women. The most commonly affected sites are the vertebrae and, more rarely, the hips, pubic rami and ribs [2].

An important complication of osteoporosis is fracture and a preemptive diagnosis and treatment thereof, can have drastic effects on the quality of life.

Objectives: Our objective is to document the relevant risk factors, present signs and symptoms, course of illness, and response to treatment in three cases of PLAO. It is quite possible that osteoporosis in pregnancy and lactation is more frequent than recognized, simply because it is only recognized when an unexpected fracture occurs[3]. Thus, in this article we are presenting three cases that showcase the need for more rigorous research on PLAO risk factors, the need for screening in high risk patients, and the advantages of early detection in patients' outcome.

Methods: The clinical cases of the patients whose PLAO diagnoses had been confirmed by both a radiologist and a rheumatologist in the past year was extracted. Information related to demographic indices, clinical manifestations, and the treatment methods was evaluated and compared.

Results: In the past year, three patients with a chief complaint of low-back pain have visited our clinic. The first, a 22-year-old woman with a nursing history of 2 months, the next one, a 31-year-old woman with a nursing history of 3 months, and the last, a 22-year-old woman with a nursing history of 4 months. All three patients had low back pain and tenderness. Two out of three patients had deficient vitamin D levels and the other had a normal one. All three patients had low BMD in lumbar vertebra and MRI imagings indicative of osteoporotic fracture.

Table 1. General and pregnancy-related characteristics of the case studies

Variables	Case 1	Case 2	Case 3
Age	22	31	22
Nursing duration	2 months	3months	4months
BMD(lumbar spine)	-3.6	-3.5	-3.1
Vitamin D level	12.6(ng/ml)	31.6(ng/ml)	8(ng/ml)
Fracture	T ₁₂ , L ₁	T _{4,5,6,7,10} , L ₂	L _{1,2,3,4,5}

Conclusion: Since the symptoms of PLAO are often confused with pain in other low-back pain conditions associated with pregnancy, PLAO is a mostly overlooked diagnosis[4]. It is only recognized when an unexpected fracture occurs [3]Therefore, high risk patients with less severe symptoms are usually not diagnosed and thusly, should undergo a proper screening test, so that they are recognized early and the morbid sequelae are averted.

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AB0893

THE EFFECTS OF THREE DIFFERENT VITAMIN D3 SUPPLEMENTATION REGIMENS IN DEFICIENT SUBJECTS - A RANDOMIZED OPEN-LABEL PARALLEL GROUP STUDY.

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Background: Currently, most experts agree that levels of serum 25OH-Vitamin D (25OHD) lower than 20 ng/mL represent an acceptable threshold for deficiency (1). However, recommendations for vitamin D supplementation vary between scientific societies, and the best regimen to treat deficient patients is still not clear (1).

Objectives: The aim of our study was to compare the pharmacokinetic profile of three different regimens of cholecalciferol supplementation in terms of 25OHD exposure and their safety profiles.

Methods: We evaluated, in healthy subjects affected by vitamin D deficiency (defined as 25OHD < 20 ng/mL), 18 to 60 years of age, the efficacy of three different oral supplementation regimens: daily 10,000IU administered for 8 weeks, weekly 50,000IU for 12 weeks and biweekly 100,000IU for 12 weeks. Serum 25OHD was dosed at baseline, at week 2, 4, 8 in all three groups and also at week 12 in the 50,000 and 100,000IU groups (the blood sample was taken before the drug administration if scheduled on the same day). Baseline characteristics and 25OHD changes from baseline to the various observation points were tested with ANOVA and t-test. 25OHD was measured by the IDS-ISYS Multi-Discipline automated analyser (Immunodiagnostic System, Boldon, UK) based on chemiluminescence technology. The CV intra-assay measured in our laboratory was 6% (inter-assay CV 9%). The study was authorized by the local ethical committee (protocol DIBA/11. Supported by Abiogen Pharma, Italy).

Results: A total of 75 subjects were randomized to receive one supplementation regimen. The descriptive of the sample at baseline and relative 25OHD levels at the various observation points are reported in table 1. 25OHD increased significantly already at week 2 in all three groups (p=0.000). At week 2, 100% of the subject of the daily regimen group presented 25OHD levels >20ng/mL, 96% in the weekly and 88% in the biweekly ones.

Table 1. mean values ± SD at the different observation points.

Parameter	Daily 10.000 Ui (N = 25)	Weekly 50.000 Ui (n = 25)	Biweekly 100.000 Ui (N = 25)	p-value
M:F	12:13	7:18	12:13	
Age (years)	30.2 ± 9.9	36.7 ± 8.7	35.4 ± 11.0	*0.059
Body Weight (kg)	65.8 ± 13.2	67.8 ± 10.8	66.6 ± 13.7	*NS
Height (m)	1.7 ± 0.1	1.68 ± 0.1	1.7 ± 0.1	*NS
BMI	22.55 ± 2.7	23.8 ± 2.2	22.8 ± 2.7	*NS
Baseline 25OHD (ng/ mL)	14.6 ± 3.9	12.8 ± 3	13.5 ± 4.1	*NS
25OHD week 2	32.3 ± 5	26.5 ± 3.4	25.6 ± 5	^a 0.007 ^b 0.000
25OHD week 4	55 ± 10.1	39.9 ± 4.2	36.9 ± 7.2	^a 0.000 ^b 0.000
25OHD week 8	79.1 ± 16.2	53.5 ± 7.2	46.4 ± 8.2	^a 0.000 ^b 0.000
25OHD week 12	NA	58.5 ± 7.8	50.6 ± 9.6	^c 0.001 ^b 0.000 ^a 0.001

*ANOVA test.

^aDaily 10.000 Ui vs weekly 50.000 Ui.

^bDaily 10.000 Ui vs Biweekly 100.000 Ui.

^cWeekly 50.000 Ui vs biweekly 100.000 Ui.

In addition, the 25OH levels of the daily regimen group at week 8 were higher than both the ones of the weekly and the biweekly regimen groups both at week 8 and week 12 (p<0.000 vs both groups).

No serious adverse event occurred.

Conclusion: All the three different regimens proved to be effective in correcting vitamin D deficiency already after 1 months (2 weeks for the daily regimen). A more refracted approach seems to more effective than the bolus-based regimens. The safety profile was excellent in all groups.

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AB0894

OBSERVANCE OF ZOLEDRONIC ACID INFUSION. A RETROSPECTIVE 3 YEARS STUDY

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Background: Osteoporosis is a public health issue. Lack of therapeutic compliance is often a problem in the treatment of osteoporosis, with potentially dramatic consequences. No studies have evaluated the observance of zoledronic acid infusion after 3 years, the time of the therapeutic reassessment.

Objectives: The main objective of assessing the level of compliance was to evaluate the level of zoledronic acid infusion adherence at 1, 2 and 3 year periods, in a cohort of osteoporotic patients on discharge from Bégin hospital, following treatment for fracture caused by low-energy trauma. The first infusion was prescribed by rheumatologists, with the following infusions to be prescribed by general practitioners.

Methods: We performed a retrospective observational study initially conducted by written and telephone questionnaires on a population of patients hospitalized in the rheumatology department of HIA Bégin for an osteoporotic fracture. Data was collected between July 2015 and December 2018. A first letter, containing a stamped addressed envelope to the Bégin hospital for ease of reply, was sent to the patients selected for the study. The protocol had to be modified following a very low response rate, unaided by bad quality addresses. We then tried to contact the patients by phone 3 times and, if unable to reach them, we called their general practitioners on 3 occasions.

Results: 94 patients were initially selected. Every year, we retained within the study patients who had followed their annual zoledronic acid infusion protocol. Taking into account all 94 patients, adherence level for the first infusion was 41.4%, down to 29.7% for the second infusion and down to 12.8% for the third infusion.

For those who had the first infusion performed, adherence level for the second infusion was 71.8%, down to 30.8% for the third infusion.

Conclusion: The observance and follow-up of zoledronic acid infusion in France by general practitioners is not adequate. Follow-up measures on an annual basis by the rheumatologist could significantly improve adherence.

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AB0895

RELATIONSHIP BETWEEN BONE MINERAL DENSITY, INFLAMMATORY ACTIVITY AND AUTOIMMUNITY IN A COHORT OF EARLY RHEUMATOID ARTHRITIS PATIENTS

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Background: The etiology of bone loss in Rheumatoid Arthritis (RA) is multifactorial and systemic inflammation plays a relevant role. Recently, a relationship between autoimmunity and bone mineral density (BMD) has been described in patients with RA.

Objectives: To study BMD and biochemical parameters of bone metabolism in a cohort of patients with early rheumatoid arthritis, and assess the relationship between them and autoimmunity and other markers of inflammation.

Methods: A prospective longitudinal study was performed. 128 patients from an early Rheumatoid Arthritis Unit (ERAU) were included. All of them fulfilled ACR 2010 classification criteria for RA. Demographic, clinical, biochemical, immunological, radiological and densitometric data, and also inflammatory activity index DAS 28, HAQ functional index, were collected. Any value >20 IU/mL for RF and >30 IU/mL for ACPA was defined as positive.

Results: Between January 2009 and June 2017, 801 patients were evaluated in our ERAU. After two years of follow-up, the most frequent definitive diagnoses were: Early RA 221 (27.6%), Undifferentiated Arthritis 97 (12.1%), Psoriatic Arthritis 62 (7.7%), Spondyloarthritis 54 (6.7%) and autoimmune Diseases 28 (3.4%).

From the 128 patients with early rheumatoid arthritis evaluated, 104 (81.9%) were ACPA positive and 98 (77.2%) FR positive. The mean BMD in the total column was 0.96 ±0.14 g/cm² and in the femoral neck was 0.76 ±0.12 g/cm². No correlation of BMD with autoimmunity markers was found in either of the two locations studied, while a negative relationship between BMD and the PCR inflammation marker (BMD femoral neck: rho=0.203, p = 0.027 and BMD lumbar spine rho =-0.27, p 0.003) was found. The BMD did not correlate with DAS28 nor the HAQ index.

The mean baseline serum calcidiol value was 20.7±8 ng/ml, and a negative correlation of basal serum calcidiol with the functional HAQ index was observed (rho=-0.23, p= 0.008). No correlation between other autoimmunity (FR and ACPA) and inflammation (VSG, PCR and DAS 28) markers and vitamin D was found.

Conclusion: The BMD in patients with early rheumatoid arthritis of our cohort correlates with the PCR inflammation marker. Unlike other studies shows, in our cohort, serological autoimmunity factors do not have shown to have an independent effect on BMD.

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AB0896

EFFECTIVENESS OF SACROPLASTY IN THE MANAGEMENT OF OSTEOPOROTIC SACRAL FRACTURE IN ELDERLY PATIENTS

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Background: Sacral fractures are a source of pain leading to loss of autonomy in elderly patients. Sacroplasty may be an effective alternative of conservative medical treatment.

Objectives: To evaluate the short-term analgesic effect of sacroplasty compared to conservative treatment in patients with osteoporotic sacral fractures

Methods: This is a retrospective study of cases of osteoporotic sacral fractures treated with sacroplasty, compared with cases treated with conservative medical procedure over the same period. Outcome was evaluated by pain (Visual analogic scale) short-term (one month) evolution and side effects occurrence.

Results: From January 2009 to June 2019, eleven patients were treated with sacroplasty for osteoporotic fractures at the Besançon University Hospital Centre. These were compared to 12 patients with osteoporotic sacral fracture with exclusive medical management, as a control group. The two groups were similar in age, gender and pain level at baseline. The median VAS was 7/10 in both groups at baseline. In the sacroplasty group, a significant decrease of pain was observed over the two first weeks, with a tendency remaining at day 30. There were no significant differences in the conservative treatment group at one week (p=0.2), fourteen days (p=0.6) and thirty days (p=0.7) compared to basal assessment.

When comparing the sacroplasty group and the conservative treatment group, no differences were noted at baseline between the two groups, there was a significant difference between the two groups the following day (p=0.001), one