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 imaging 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 10,000 IU administered for 8 weeks, weekly 50,000 IU for 12 weeks and biweekly 100,000 IU 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 100,000 IU 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 >20 ng/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.