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AbstractBook

The basal level of BMD of the spine made up of 0.732±0.01 g/cm^2, femoral neck 0.776±0.01 g/cm^2 . Patients, taking SR in combination with AD3 the level of β-CrossLaps was significantly decreased compared with the control (39.4%; P<0.0001), and 1st (a 24.0%; P=0.008) groups. The level of TP1NP in patients taking SR in combination with AD3, the indicator was significantly higher (by 53.3%; P<0.0001) than in the control group. Against the background of SR+AD3 therapy, an increase in BMD in the femoral neck was observed (from 0.799±0.019 g/cm^2 to 0.862±0.02g/cm^2; P=0.01). On average, the increase was 8.17±1.44%. BMD in the femoral neck after treatment was significantly higher than in the control and 1st groups. Our studies have shown that before treatment, the time spent on getting up from a chair was on average 16.8±0.78 s. During therapy, the time taken to rise from a chair, was significantly lower by 16.7% (P=0.005) and were equal to the average of 13.86±0.63 s.

The performance test on the balance significantly improved by 2.62±0.55 s (8.88±0.38 s vs. 6.26±0.59 before treatment; P<0.0001).

Conclusion: The use of strontium ranelate, especially in combination with AD3, increases the BMD of the lumbar spine and femoral neck, changes the metabolic activity of bone remodeling processes (according to biochemical markers), increases muscle strength and neuromuscular coordination (according to the ability to perform functional tests), and therefore reduces the risk of falls and fractures, which indicates the need to continue research, the relevance of which is beyond doubt.

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IRM EXAM IN STAGING KIENBOCK DISEASE

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Objective: Kienbock disease is avascular necrosis of the lunate, was described by Robert Kienböck in 1910. The condition is most common within the dominant wrist of young adult men where it appears to be due to repeated loading of the lunate. A 5-stage radiographic classification system exists. The Stahl classification modified by Lichtman, is the most commonly used staging system and is useful in the treatment. This system divides the disease into four stages, and is for the radiographic changes: stage I: normal radiograph; stage II: increased radiodensity of the lunate with possible decrease of lunate height on the radial side only; stage III- IIIa**:** lunate collapse, no scaphoid rotation, -IIIb**:** lunate collapse, fixed scaphoid rotation; stage IV: degenerative changes around lunate. We aimed to describe medullary perfusion of the lunate bone in Kienbock disease using contrast enhanced MR.

Methods: We evaluated 11 patients (7 male and 4 female, aged between 19-47 y) who underwent MRI examination of the wrist in the Imaging Dept. of the County Clinical Hospital in Oradea. In addition to plain imaging T1-weighted sequences were performed in coronal and sagittal orientations after intravenous application of gadolinium.

Results: Plain T1-weighted images revealed decreased signal of the lunate, either focally at the proximal aspect or within the whole bone. Three patterns of medullary perfusion were found with respect to signal changes after application of gadolinimum. MR stage I: Homogeneous, excessive enhancement due to intact perfusion was detected in 2 patients of all of them presenting normal radiograms(stage I after Lichtman) Pathoanatomical correlation was bone marrow edema. MR stage II: Inomogeneous enhancement patterns were found in 6 patients. Contrast enhancement was located distally within the viable tissue, but not in necrotic areas of the proximal aspect. Disease was classified to stages II and III a(after Lichtman) in these cases.

MRI stage III: No signal enhancement after application of gadolinium was visible in 3 patients suffering from stages IIIb and IV(after Lichtman). The avascular pattern always correlated with complete osteonecrosis.

Conclusion: In staging Kienbock disease contrast-enhancement MR is more confident in visualizing bone marrow viability when compared to plain sequences. For assessment of prognostic outcome and therapeutic considerations, we strongly recommended contrast-enhancement MRI.

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CLINICAL AND IMMUNOLOGICAL SIGNIFICANCE OF DETERMINING FIBRONECTIN ANTIBODIES IN RHEUMATIC DISEASE

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Objective: Fibronectin (FN) is a high molecular glycoprotein capable of inducing an autoimmune condition so that specific immunoglobulins can cause destruction of connective tissue. We aimed to study the level of FN antibodies in blood serum from patients with rheumatic disease using ELISA test and immobilized magnetic sorbents.

Methods: We studied sera from 36 apparently healthy individuals, 68 patients with rheumatoid arthritis, 36 patients with systemic lupus erythematosus, and 25 patients with systemic scleroderma. According to the degree of activity the patients with rheumatoid arthritis were categorized in the following way: 10 people with degree I (15%), 41 people with degree II (60%), 17 people with degree III (25%). Among patients with systemic lupus erythematosus 5 people (14%) showed degree I of disease activity, 22 people

(61%) showed degree II, and 9 people (25%) had the maximum degree of disease activity. Among patients with systemic scleroderma 10 people (40%) had degree I, and 15 people (60%) had degree II of disease activity.

Results: Elevated FN antibodies in ELISA test were revealed in 13 (19%) patients with rheumatoid arthritis, 14 (39%) patients with systemic lupus erythematosus, and 8 (32%) patients with systemic scleroderma. In rheumatoid arthritis the level of FN antibodies was associated with the activity of the disease ($p<0.05$) and the presence of extraarticular manifestations ($p<0.02$). In patients with systemic lupus erythematosus the level of FN antibodies was associated with the activity of the disease in the group of patients with kidney involvement ($p<0.05$). In systemic scleroderma with degree I of disease activity high levels of FN antibodies were revealed in 40% of cases and were associated with involvement of lungs and the cardiovascular system.

Conclusion: Thus determining FN antibodies permits expanding the present understanding of pathogenesis of rheumatoid arthritis, systemic lupus erythematosus, and systemic scleroderma.

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DIFFICULTIES IN INTRODUCING PATIENTS WITH PREGNANCY AND LACTATION-ASSOCIATED OSTEOPOROSIS (PLO)

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Objective: Osteoporosis associated with pregnancy and lactation is a rare condition in late pregnancy or in the early postpartum period.

Methods: A 23-year-old woman, 5 months of her first pregnancy, began complaining of moderate back pain. One week after giving birth, her back pain worsened as she was unable to breastfeed or take care of the baby on her own. MRI of the spine, performed 2 months after delivery, compression fractures of the vertebrae T12, L2 and L3. BMD was measured using DXA. Laboratory tests: Vit D-28.2 ng/ml, osteocalcin - 45.94 ng/ml, PTH - 78.6 pg/ml, ALP - 70 U/l, calcium -2.59 mmol/l, NTx- 121.3 nM. Scintigraphy of the parathyroid glands revealed no pathology.

Results: The patient was stop breastfeeding and was prescribed therapy for one year: ibandronic acid at a dose of 3mg/3ml, vitamin D 1000 IU/d and calcium 1000 mg. In order to assess the quality of treatment after 6 months, the markers of bone remodeling were redetermined: Vit D - 45.3 ng/ml, osteocalcin - 26.6 ng / ml, PTH-83.4 pg/ml, ALP - 59.0 U / l, calcium - 2.30 mmol/l. A year later, DXA was performed. Blood tests showed: Vit D - 64.0 ng / ml, osteocalcin - 36.2 ng/ml, PTH-57.7 pg/ml, ALP - 57.0 U/l, calcium - 2.29 mmol/l, NTx-20.2 nM. Since the patient was planning her next pregnancy in a year, Denosumab was prescribed at a dose of 60 mg subcutaneously every 6 months. After 6 months of treatment, X-ray densitometry was repeated. Since BMD decreased slightly, denosumab treatment was discontinued and it was recommended to continue calcium 500 mg and vitamin D 1000 U daily.

Changes in BMD values.

BMD value (g/cm^2)	31.01.2020.	12.04.2021.	IR%	06.12.2021.	IR%
BMD (L1–L4)	0.896	1.052		1.033	
Z-score	-2.2	-0.9	17.4%	-1.1	-1.8%
BMD left (T-h)	0.886	0.987		0.867	
Z-score	-0.8	0.0	11.4%	-0.9	-12.2%
BMD right (T-h)	0.848	0.904		0.911	
Z-score	-1.1	-0.6	6.6%	-0.6	1.2%

Conclusion: The lack of clear recommendations for patients with osteoporosis associated with pregnancy and lactation complicates the treatment tactics.

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LONG-TERM SAFETY AND PERFORMANCE BENEFITS OF KIOMEDINE® CM-CHITOSAN FOR ADVANCED SYMPTOMATIC KNEE OSTEOARTHRITIS: AN OBSERVATIONAL CASE REVIEW SURVEY

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Objective: Symptomatic knee osteoarthritis (OA) is commonly treated with hyaluronan; however, nonresponders to hyaluronan and individuals with advanced OA remain difficult to treat. KiOmedine CM-Chitosan is a novel fluid implant intended for symptomatic treatment of knee OA that has proved to be safe and effective in a first-in human trial. We hereby report long-term data (a 6-to-10-month Post-Market Clinical Follow-Up (PMCF) survey) pertaining to KiOmedine CM-Chitosan treatment and assess indicators of safety and performance in advanced symptomatic knee OA.

Methods: Advanced knee OA patients were those defined as having at least one of the following: tricompartmental OA, isolated or severe patello-femoral OS, a BMI >30 kg/m^2, and/or Kellgren-Lawrence grade III or IV classification. One long-term survey was con-