TABLE 1 - COMPARISON OF EPIDEMIOLOGICAL, CLINICAL, SEROLOGICAL DATA IN SCLERODERMA PATIENTS WITH AND WITHOUT HIGH ASCA LEVELS.

	ASCA IgG			ASCA IgA		
	Positive N=21	Negative N=53	p	Positive N=12	Negative N=62	p
Mean age (years)	51.4±12.7	52.0±12.1	0.84	52.08±13.8	51.6±12.1	0.92
Gender (male /female)	4/32 (12.5%)	13/39 (33.3%)	1.00	0/12	8/62 (12.9%)	0.33
Median Disease duration (IQR)	6.5 (4.2-14.0)	9.0 (3.5-12.0)	0.83	9.0 (6.5-17.5)	7.0 (3.0-11.5)	0.15
Tobacco exposure	5/32 (14.2%)	4/31 (12.9%)	0.72	1/12 (8.3%)	8/62 (12.9%)	1.00
Afrodescent/caucasians	18/30 (60%)	4/42 (9.5%)	< 0.0001	6/11 (54.5%)	25/58 (43.1%)	0.48
Median BMI (Kg/m²) (IQR)	24.01 (22.04-28.4)	26.02 (23.1-30.9]	0.09	24.9 (22.1-29.3)	25.4 (22.3-28.6)	0.84
Median Medsger index (IQR)	4 (3.0-8.0]	4.0 (2.5-6.0]	0.98	4.0 (1.0-4.0]	5.0 (3.0-8.0]	0.05
Median Rodnan m (IQR)	4 (2.0-10.5]	6 (2.5-14.0]	0.44	3 (0-10)	6.0 (3.0-13.0)	0.13
Raynaud	32/32 (100%)	40/42 (95.2%)	0.50	12/12 (100%)	60/62 (96.7%)	1.00
Telangiectasias	6/32 (18.7%)	16/42 (38.09%)	0.07	3/12 (25%)	19/62 (30.6%)	1.00
Digital scars	14/32 (43.7%)	19/42 (45.2%)	0.89	3/12 (25%)	30/62 (48.3%)	0.20
Pneumonitis	13/32 (40.6%)	25/42 (59.5%)	0.10	4/12 (33.3%)	34/62 (54.8%)	0.21
Calcinosis	3/32 (9.3%)	2/41 (4.8%)	0.72	1/12 (8.3%)	4/61 (6.5%)	1.00
Arthritis	11/32 (34.3%)	8/42 (19.04%)	0.13	3/12 (25%)	16/62 (25.8%)	1.00
Myositis	3/32 (9.3%)	4/42 (9.5%)	1.00	1/12 (8.3%)	6/62 (9.2%)	1.00
Esophageal dismotility	19/30 (63.3%)	23/40 (57.5%)	0.62	6/12 (50%)	36/58 (62.0%)	0.43
Pulmonary hypertension	4/26 (15.3%)	8/32 (25%)	0.51	1/10 (10%)	10/46 (21.7%)	0.67
Anti centromere	8/30 (36.4%)	22/39 (56.4%)	0.01	4/10 (40%)	26/59 (42.3%)	1.00
Anti Scl-70	2/31 (6.4%)	9/41 (21.9%)	0.10	0/11	11/61 (18.03%)	0.19
Anti Ro	7/31 (22.5%)	4/40 (10%)	0.19	4/12 (33.3%)	7/59 (11.8%)	0.08
Anti La	4/31 (12.9%)	3/40 (7.5%)	0.69	2/12 (16.6%)	5/59 (8.4%)	0.33
Median ESR (mm) (IQR)	32.5 (13.2-48.5)	25.0 (14.0-41.0)	0.30	32.0 (14.2-55.2)	27 (14.0-41)	0.49
Median C reactive protein (mg/dL) (IQR)	8 (2.4-14.2)	9.5 (4.0-17.5)	0.64	9.0 (5.7-14.7)	8.8 (1.07-16.7)	0.60
Median hemoglobin (g/dL) (IQR)	13 (12-13.5]	13.0 (12.0-14.1)	0.68	13.2 (12.8-13.4)	13.0 (12.0-13.7)	0.34
Scleroderma subset:			0.36			0.13
Limited	19/32(59.3%)	18/42(42.8%)		7/12 (58.3%)	31/62 (50%)	
Generalized	11/32(34.3%)	21/42 (50%)		3/12 (25%)	28/62 (42.1%)	
Others	02/32 (6.2%)	03/42 (7.1%)		2/12 (16.6%)	3/62 (4.9%)	

IQR= interquartile rate; ESR= erythrosedimentation rate;BMI= body mass index.

negatively with anticentromere antibodies (p=0.013); ASCA IgA had a negative association with Medsger score (p=0.05). In multivariated analysis IgG ASCA associated independently only with African ethnic background.

Conclusions: Positivity for IgG and IgA ASCA are higher among scleroderma patients than controls. African descendants have more positivity for IgG ASCA and ASCA IgA were less commonly seen in patients with more severe disease.

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Basic science in paediatric rheumatology

LONG-TERM ADMINISTRATION OF FENSPIRIDE HAS NO NEGATIVE IMPACT ON BONE MINERAL DENSITY AND BONE TURNOVER IN YOUNG GROWING RATS

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Background: In young organisms intensive bone turnover is observed and it allows the skeleton to achieve proper side, shape and weight of bones. It is extremely important to assess the influence on various drugs on growing bones. Fenspiride is registered for therapy of acute and chronic respiratory tract infections in children and adolescence. It decreases the synthesis of proinflammatory cytokines, blocks H1 receptors and has bronchodilatotory properties.

Objectives: The aim of the study was to assess the influence of long-term administration of fenspiride on bone mineral density and selected markers on bone turnover in young growing rats.

Methods: The experiment was carried out on 18 young (8-week-old) male Wistar rats receiving standard diet containing 1.2% of calcium ans 0.7% of phosphate. Rats were randomly assigned to one of two groups (9 animals in each group): group F – rats receiving fespiride (15 mg /kg) in saline solution (4ml/kg), and group C (control group) - rats receiving saline solution (4ml/kg). Saline solution and fenspiride were given intragastrically once daily for 90 days (from day 3 to day 92). On day 1 and 93 blood samples for serum isolation were collected. Markers of bone turnover were assessed with commercial ELISA kits according to producers' instruction. Bone mineral density (BMD) was measured by dual-energy X-ray absorptiometry (DXA) with Hologic DXA equipment (Hologic Dicovery W 81507) using a small animal software. The experiment was performed with the approval of the First Local Ethics Committee for Experiments on Animals in Wroclaw.

Results: On Day 1 there was no difference in age and body weight between groups. On Day 1 no difference in total body bone mineral density (BMD) (0.160±0.0065 g/cm² vs. 0.1608±0.0056 g/cm²), lower limbs BMD (0.232±0.0267 g/cm² vs. 0.2274±0.0314 g/cm²), serum levels of bone turnover markers (osteocalcin: 1000.921±109.0705 pg/ml vs. 952.5777±178.5306 pg/ml; bCTX: 280.089±54.4298 pg/ml vs. 292.8979±116.0042 pg/ml; osteoprotegerin: 3.5±0.6338 pg/ml vs. 3.7963±0.6894 pg/ml; RANKL: 0.167±0.4099 pg/ml vs. 1.0218±1.2717 pg/ml) was detected.

On Day 93 there was no difference in body weight, total body BMD and lower limbs (0.212±0.0104 g/cm² vs. 0.2035±0.0242 g/cm²; 0.264±0.0159 g/cm² vs. 0.2520±0.0271 g/cm², respectively) between groups. On Day 93 no difference between groups in serum bone turnover markes was detected (OC: 422.758±92.3316 pg/ml vs. 429.2071±83.0520 pg/ml; bCTX: 307.748±77.6733 pg/ml vs. 285.3486±79.16334; OPG: 5.466±0.7815 pg/ml vs. 5.3520±1.6458 pg/ml; RANKL:0.647±0.8457 pg/ml vs. 0.5630±0.8608 pg/ml).

Conclusions: Long-term administration of fenspiride has no negative impact on bone mineral density and bone turnover in young growing rats

EFFECT OF MIR-19A AND MIR-21 ON THE JAK/STAT SIGNALING PATHWAY IN THE PERIPHERAL BLOOD MONONUCLEAR CELLS OF PATIENTS WITH SYSTEMIC JUVENILE IDIOPATHIC ARTHRITIS

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Background: Overexpression of the components of the Janus kinase/signal transducer and activator of transcription (JAK/STAT) signaling pathway are key factors of the pathogenic mechanisms underlying systematic juvenile idiopathic arthritis (SJIA).

Objectives: The present study aimed to investigate the association between microRNA (miR)-19a, miR-21 and the JAK/STAT signaling pathway.

Methods: A total of 20 patients with SJIA were included in the study, and peripheral blood mononuclear cells (PBMCs) from 20 normal controls were also collected.RNAiso was used to extract total RNA, and the RNA was then reverse transcribed into cDNA. Primers were designedto detect the mRNA of miR-19a and miR-21, and U6 was set as the internal parameter. In addition, the mRNA of STAT3, suppressor of cytokine signaling 3 (SOCS3), interleukin-6 (IL-6) and tumor necrosis factor-α (TNF-α) was detected, and β-actin was set as the internal parameter. Reverse transcription-quantitative polymerase chain reaction was performed to detect the expression levels of these proteins in patients with SJIA and control subjects, and non-parametric tests were used to analyze the statistical differences in 2-△△Cq between the two groups.

Results: The expression levels of miR-19a and miR-21 were significantly lower in the SJIA group compared with the control group (P<0.05). SOCS3, TNF-α and STAT3 were shown to be the target genes of miR-19a and miR-21, as determined by Targetscan. The expression levels of STAT3, SOCS3,TNF-α and IL-6 mRNA were significantly higher compared with those of the control group (P<0.05).

Conclusions: In the PBMCs of the patients with SJIA, miR-19a and miR-21 expression levels were lower compared with those of the control group, and the JAK/STAT signaling pathway was activated, which indicated that miR-19a and miR-21 may participate in the activation ofthe JAK/STAT signaling pathway.