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AB0998

TRABECULAR BONE SCORE IN PEDIATRICS, IS IT USEFUL?

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Background: Bone fragility depends not only on bone mineral density (BMD), but also on bone microarchitecture. In adults, Trabecular Bone Score (TBS) is being used as an indirect marker of bone microarchitecture.

It is a software that applied to the vertebral image obtained by conventional densitometry, informs about the thickness of the trabeculae, the trabecular connectivity and the space between them. A high score indicates a better bone microstructure. In adults, a TBS equal to or greater than 1,350 is considered to represent a normal microarchitecture.

Objectives: To evaluate the usefulness of TBS in pediatric population with risk factors for Low Bone Mass (LBM).

Methods: TBS was assessed by analyzing vertebral densitometries performed on patients from 4 to 20 years of age, assessed in the pediatric rheumatology office of our hospital for presenting risk factors for LBM, consecutively from 2016 until 2018. Data were compared with normal pediatric population.

Results: Data from 83 patients are shown, with an average age of 11.2 years, 62% female, 80% Caucasian.

The main risk factors for LBM were (%): Insufficient calcium intake (84,5), medications with osteopenizing potential (31), corticosteroids (39), sedentary lifestyle (13,6), fractures of long or vertebral bones (12,6) and hypovitaminosis D (8,1).

Table 1. TBS por age groups and in patients with and without LBM

Age groups	n	Mean	SD	Minimum-Maximum
Scholars (4-9a)	22	1,321	0,093	1,119-1,502
Adolescence (10-17a)	54	1,309	0,088	1,073-1,493
Youth (18-20a)	6	1,359	0,085	1,258-1,460
Spine Z score	n	Mean (SD)	p	Minimum-Maximum
≤-2	8	1,270 (0,075)	0,126	1,419-1,162
>-2	74	1,321 (0,090)		1,502-1,073
Whole Body Z score				
≤-2	9	1,246 (0,060)	0,012	1,323-1,145
>-2	73	1,324 (0,089)		1,502-1,073

Table 2. TBS in healthy population and study population for age

	Healthy girls (n=2535)		Healthy boys (n=1459)		Study girls (n=47)	Study boys (n=36)
Age (y)	Spine BMD	TBS	Spine BMD	TBS	TBS	TBS
1-2	0,40	1,325	0,37	1,272		
2-3	0,51	1,363	0,46	1,267		1,127
3-4	0,52	1,346	0,51	1,264	1,204	
4-5	0,60	1,346	0,60	1,267	1,237	1,243
5-6	0,60	1,288	0,56	1,269	1,330	1,368
6-7	0,65	1,280	0,60	1,232	1,318	1,422
7-8	0,67	1,268	0,64	1,244	1,339	1,345
8-9	0,71	1,266	0,68	1,228	1,244	
9-10	0,75	1,278	0,70	1,208	1,253	1,341
10-11	0,8	1,285	0,73	1,231	1,229	1,292
11-12	0,84	1,337	0,76	1,250	1,303	1,315
12-13	0,99	1,355	0,81	1,248	1,381	1,368
13-14	1,06	1,386	0,89	1,273	1,394	1,338
14-15	1,10	1,398	0,99	1,303	1,474	1,285

Table 2. TBS in healthy population and study population for age

	Healthy girls (n=2535)		Healthy boys (n=1459)		Study girls (n=47)	Study boys (n=36)
Age (y)	Spine BMD	TBS	Spine BMD	TBS	TBS	TBS
15-16	1,14	1,405	1,08	1,311	1,368	1,406
16-17	1,17	1,405	1,15	1,334	1,332	1,371
17-18	1,17	1,404	1,20	1,328	1,374	1,285
18-19	1,17	1,404	1,16	1,314		

Conclusion: TBS was lower in the patients with LBM by whole body Z score, but not in those with LBM by spine Z score. We observed a decrease in TBS in adolescence, not corresponding with a decrease in BMD, and that should not be interpreted as a pathological finding.

Similar results have been described in other pediatric populations (1, 2), but larger studies are needed to evaluate this phenomenon. We hypothesize that it may be due to a higher rate of growth in adolescence, with a lower rate of calcium apposition into the osteoid material.

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AB0999

HALLMARK CLINICAL FEATURES OF JUVENILE PSORIATIC ARTHRITIS (JPsa)

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Background: JPsa is presented in 4 to 9% children with juvenile arthritis [1,2]. According to ILAR criteria, patients with uveitis, HLA-B27-positivity, and other exclusion criteria cannot be included in the JPsa category. Therefore, in pediatric rheumatological practice, the Vancouver criteria are more often used [3].

Objectives: to identify clinical features of psoriatic arthritis in children.

Methods: a single center, prospective and retrospective, continuous clinical trial for the period from 1989 to 2019 was conducted.

Results: We observed 83 patients with JPsa aged from 4 months to 17 years. Fifty-nine (71%) patients had definite JPsa and 24 (29%) had probable JPsa, according to the Vancouver criteria. The clinical and demographic characteristics are presented in Table 1.

In 17 (29%) children with definite JPsa, skin lesions presented as the first sign of the disease, joint damage in these patients developed after 3.5 ± 2 (2) years. In 28 (48%) patients articular syndrome was observed on the onset with subsequent skin manifestations after 5.3 ± 3 (5) years. Fourteen (23%) children with definite JPsa had simultaneous debut of skin and articular syndromes (Fig.1).

Fig.1. Skin and / or articular syndromes in the onset of the disease in children with definite JPsa

Table 1. The clinical and demographic characteristics of patients with JPsA (n=83)

Demographic indicators	JPsa M ± σ (Me)	
	Definite	Probable
Number of patients (n)	59	24
Girl/Boy Ratio	1,7:1	2:1
Average age, years	6,6±4 (5)	6,3±2,7 (5)
Duration of the disease, years	3 ±2 (3)	
Family history of psoriasis	22 (26%)	
n, (%)	34 (41%)	
Potential trigger n, (%)	22 (27%)	
	12 (14%)	
	7 (8%)	
	5 (6%)	
	3 (4%)	
	34 (41%)	

Among 59 patients with definite JPsa, vulgar psoriasis was observed in 45 (76%) patients, guttate psoriasis in 9 (15%), isolated nail psoriasis in 3 (5%), and palmoplantar psoriasis in 2 (4%). Fifteen (28%) patients had a combination of cutaneous psoriasis with damage to the nail plates.

Articular syndrome in the onset of the disease was represented by oligoarticular arthritis in 57 (69%) patients, in 15 (18%) children - symmetric rheumatoid-like arthritis, and in 11 (13%) - spondylitis. The most commonly involved joints at both presentation and during the course of the disease were the knee (41%), ankle (31%), and small joints of the hands (29%). During course of the disease, the articular syndrome transformed with symmetric rheumatoid-like arthritis prevalence (Fig. 2).

Fig. 2. Articular syndrome JPsa in the onset and during the disease course (n, %)

In 39 (47%) children, the disease at onset was characterized by high level of ESR – 34±12 (32) mm/h.

Conclusion: In most patients with JPsa, the onset of the disease occurred at the age of 6.6±4 years. Articular syndrome in the onset of the disease was presented as oligoarticular arthritis in 69% children. Overall, transformation to symmetric rheumatoid-like arthritis was the most common. Skin lesions were represented by vulgar psoriasis in 76%, guttate psoriasis in 15%, isolated nail psoriasis in 5%, palmoplantar psoriasis in 4%, and 28% of patients had a combination of cutaneous psoriasis with damage to the nail plates.

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AB1000 EFFECT OF THE LIPAT KALINGA ADOLESCENT TRANSITION CLINIC ON FILIPINO ADOLESCENTS WITH RHEUMATIC DISEASES

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Background: Establishing a transition program is important in bridging the gap between pediatric and adult healthcare especially in patients with chronic diseases. The Division of Pediatric Rheumatology of the Philippine General Hospital (PGH) established the Lipat Kalinga Adolescent Transition Clinic (LKATC) to help in the transfer from pediatric to adult healthcare by providing the support and guidance needed through education and reinforcement of self-management skills. This study is an assessment of the effect of the LKATC on the transition readiness of Filipino adolescents with rheumatic diseases at the PGH.

Objectives: To assess the effect of the LKATC program on Filipino adolescent patients with rheumatic diseases

Methods: This is a mixed-method study design done at the Philippine General Hospital. A retrospective descriptive before and after study was conducted along with a focus group discussion (FGD). The participants were pediatric rheumatology patients enrolled at the LKATC from May, 2018 to April, 2019. Comparison of the pre and post University of North Carolina (UNC) TRxANSITION scale (Filipino version) overall score and domains was done and facilitation of an FGD to elicit barriers and facilitating factors for the effective implementation of the LKATC. The FGD used a predefined discussion guide based on literature review and was done by a trained facilitator.

Results: We evaluated a total of 17 adolescent patients with rheumatologic diseases. Comparing the pre-intervention and post-intervention test scores, statistically significant increases were noted in several domains. Health transitional skills of these adolescents were noted to improve in terms of total score, medication, nutrition, self-management, informed reproduction, trade and school issues, insurance issues, and new health providers. There was no significant improvement in the type of illness, adherence and ongoing support.

Four patients who were enrolled at the LKATC and who attended at least 5 sessions participated in the FGD. The barrier themes elicited were 1. Expectation and beliefs regarding adult healthcare, 2. Different doctor-patient relationship, 3. Logistical problems. The facilitating themes elicited were 1. Familiarization, 2. Peer support, 3. Communication.

Conclusion: This study showed the effects of an adolescent transition clinic program in Filipino adolescent with rheumatic disease. Significant increase in the overall UNC TRxANSITION score as well as majority of the scores per domains were seen. Barriers and facilitating factors affecting the transition process elicited during a focus group discussion were also presented. This study provided baseline data on the importance of establishing an adolescent transition clinic for patients with chronic disease in the local setting.

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