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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.861

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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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.866

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