AB0098

ASSOCIATED FACTORS IN ONE-YEAR MORTALITY IN PATIENTS WITH SMALL VESSEL SYSTEMIC VASCULITIS

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Background: The highest mortality rates in patients with small vessel systemic vasculitis occur within the first year after the diagnosis, however associated factors have been scarcely studied in our population.

Objectives: To identify mortality associated factors at the time of diagnosis in patients with small vessel systemic vasculitis.

Methods: Retrospective cohort (2009-2020) involving 81 patients diagnosed with systemic small vessel vasculitis. Demographic, clinical and biochemical parameters were studied as potential factors associated with one-year mortality.

Results: Of the total of patients (n=81), 36 (44.4%) had generalized granulomatosis with polyangiitis, 32 (39.5%) had localized granulomatosis with polyangiitis and 5 (6.2%) had early systemic granulomatosis with polyangiitis, 7 (8.6%) had microscopic polyangiitis and 1 (1.25%) had eosinophilic granulomatosis with polyangiitis. Twenty-two deaths (27%) were observed, 14 of them (63.6%) happened within the first year of diagnosis. The leading cause of death was infection (64%). Patients who died within the first year of diagnosis had a higher frequency of hypoalbuminemia (p=0.05) and also presented hemoglobin lower than 10.8 g/dL (p=0.035) in comparison with those who died after the first year of diagnosis. Remission induction treatment did not differ between both groups.

Conclusion: Our study suggests that hypoalbuminemia and anemia are factors associated with a higher mortality within the first year after the diagnosis in patients with systemic small vessel vasculitis which contrast with previously reported data. The study design and the reduced number of patients are two major limitations of the study.

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Rheumatoid arthritis - prognosis, predictors and outcome

AB0099

IN VIVO BONE MICROARCHITECTURE ANALYSIS IN A PSORIATIC ARTHRITIC PATIENT BEFORE AND AFTER ANTI-TNFA TREATMENT

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Background: In psoriatic arthritis (PA), a systemic inflammatory phenomenon, mainly mediated by TNF α , is characterized by a bone loss due to osteoclastic stimulation. Anti-TNF α treatment should inhibit this phenomenon having a role on systemic bone loss. Ultra-high field MRI (UHF MRI) may be a tool of choice for the quantification of bone microarchitecture (BM) *in vivo*.

Objectives: The purpose of the present study was to quantify BM using UHF MRI in a PA patient and to follow up changes related to anti-TNF α treatment.

Methods: An 18 years-old untreated PA patient with knee arthritis and 7 gender-matched healthy controls [21.6 $\pm$ 0.8 years] were scanned using a gradient echo sequence at UHF MRI (TR/TE = 15/4.36ms). After a year of Adalimumab treatment, the patient underwent a second UHF MRI. BM analysis was performed on sagittal planes in regions corresponding to tendon insertion: proximal and distal patellar, and posterior tibial. A PET-FNa imaging was also performed before and after treatment. BM was characterized using the bone volume fraction (BVF), the trabecular thickness (TbTh) and the spacing (TbSp) and number of trabeculae (TbN). Student T-test was used for the statistical analysis and a p-value < 0.01 was considered as significative.

Results: PET-FNa recorded before the treatment illustrated hypermetabolic areas which resumed after the treatment while the patient was in remission. The BM parameters are shown in figure 1. The BM parameters quantified before the treatment were very different as compared to controls. BVF was significantly lower (-33 $\pm$ 23%), TbSp and TbN were significantly distinct (-27 $\pm$ 3% and +27 $\pm$ 9%) for all ROIs but proximal patellar, while TbTh was in the normal range

(-2 $\pm$ 2%). After 1 year of treatment, BM parameters were significantly improved. BVF was no longer different than controls (-8 $\pm$ 6%). Similarly, TbSp and TbN were in the normal range (+13 $\pm$ 12% and -15 $\pm$ 10%) for all ROIs but posterior tibial. TbTh (-5 $\pm$ 3%) was only significantly decreased for the distal patella.

		Healthy	P. before treatment	P. after treatment
Proximal Patella	BVF	0.393 $\pm$ 0.008	0.339 $\pm$ 0.018 *	0.401 $\pm$ 0.010
	TbTh	0.254 $\pm$ 0.013	0.254 $\pm$ 0.022	0.266 $\pm$ 0.014
	TbSp	0.364 $\pm$ 0.032	0.477 $\pm$ 0.058	0.365 $\pm$ 0.008
	TbN	1.550 $\pm$ 0.074	1.301 $\pm$ 0.136	1.493 $\pm$ 0.073
Distal Patella	BVF	0.355 $\pm$ 0.035	0.222 $\pm$ 0.064 *	0.328 $\pm$ 0.027
	TbTh	0.261 $\pm$ 0.010	0.250 $\pm$ 0.015	0.285 $\pm$ 0.004 *
	TbSp	0.469 $\pm$ 0.117	0.651 $\pm$ 0.057 *	0.532 $\pm$ 0.064
	TbN	1.366 $\pm$ 0.114	0.994 $\pm$ 0.090 *	1.116 $\pm$ 0.083
Posterior Tibia	BVF	0.381 $\pm$ 0.009	0.307 $\pm$ 0.016 *	0.335 $\pm$ 0.018
	TbTh	0.258 $\pm$ 0.008	0.260 $\pm$ 0.009	0.267 $\pm$ 0.012
	TbSp	0.426 $\pm$ 0.060	0.594 $\pm$ 0.012 *	0.570 $\pm$ 0.016 *
	TbN	1.468 $\pm$ 0.073	1.185 $\pm$ 0.047 *	1.241 $\pm$ 0.029 *

Table 1. Data are presented as mean $\pm$ SD. "P." refers as patient. BVF: Bone volume fraction, TbTh: Trabecular Thickness, TbSp: Trabecular Space, TbN: Trabecular number. * indicates a statistically significant difference (p < 0.01) with the Healthy reference values.

Conclusion: Our results illustrated knee microstructure alterations in a PA patient and a normalization after a year of treatment. The abnormalities initially observed were not only localized in the hypermetabolic regions identified by PET-FNa, suggesting that the bone loss was global and not related to inflammatory sites.

Using UHF MRI, we highlighted and quantified *in vivo* BM anomalies in a patient with an inflammatory rheumatism together with the reversibility after one year of treatment.

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AB0100

EVALUATION OF PGA LEVEL FOR CLINICAL REMISSION WITH BOOLEAN CRITERIA, 10MM OR 20MM?

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Background: Patient's global assessment (PGA) is one important component of Boolean composite criteria for remission in treat with rheumatoid arthritis (RA). However, PGA no more than 10mm is sometimes obstacle to attain clinical remission. In recent few years, one opinion that PGA no more than 20mm may be comparable as no more than 10mm.

Objectives: The aim of this study is to analyze how difference of these PGA level affect disease activity and daily activities in living, and evaluate which is optimal for the remission with Boolean remission criteria from real world setting.

Methods: RA patients who were followed up for more than three years in the institute were picked up in the study. Each patient was monitored with tenderness joint count (TJC), swollen joint count (SJC), PGA, evaluator's global assessment (EGA), serum C-reactive protein level (CRP), calculated disease activity score with simplified disease activity index (SDAI), Health Assessment Questionnaire Disability Index (HAQ-DI), and pain score using visual analog scale (PS-VAS) every consulted time from the first encounter (Baseline). Patients were classified according to achievement of Boolean remission criteria. Group 1: a patient group who attained Boolean remission with TJC $\leq$ 1, SJC $\leq$ 1, CRP $\leq$ 1mg/dl, and PGA $\leq$ 1 (G-1), Group 2: a patient group who could not attain the Boolean remission used in the G-1 evaluation, but could attained another Boolean remission with TJC $\leq$ 1, SJC $\leq$ 1, CRP $\leq$ 1mg/dl, and PGA $\leq$ 2 (G-2), and Group 3: a patient group who could not attain Boolean remission for neither criterion.

Mean values of measured parameters at Baseline and after the Baseline were compared statistically with Student T-test. Mean values of the same parameters in the G-1 and G-2 at the time of attain Boolean remission for each criteria, mean values of each of these parameters thereafter, and changes of these parameters were compared statistically with Student T-test.

Results: A total of 438 patients 385 in the G-1 group, 16 in the G-2 group, and 37 in the G-3 group, were recruited. In parameters at Baseline, level of TJC, SJC, PGA, EGA, SDAI, and HAQ-DI in the G-1 was significantly lower than in the G-3, whereas no significant differences in any parameters demonstrated between in the G-2 and G-3. Level of HAQ-DI, and PS-VAS after Baseline in the G-1 was