AB0571

RELATIONSHIP BETWEEN SERUM CALPROTECTIN LEVEL AND PRESENCE OF SUBCLINICAL ATHEROSCLEROSIS AND ARTERIAL STIFFNESS IN PATIENT WITH PSORIATIC ARTHRITIS

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Background: Calprotectin is a member of S100 leukocyte. Serum calprotectin is a sensitive biomarker of disease activity in patients with psoriatic arthritis (PsA). While various CV risk score only shown modest correlation with augmented CV risk in patient with PsA, whether calprotectin could play an addition role remains uncertain.

Objectives: To elucidate the association between serum calprotectin and sub-clinical atherosclerosis and arterial stiffness in patient with PsA

Methods: Seventy-eight PsA patient (age: 53±11 years, 47(54%) male) without CV event was recruited into this cross-sectional study. High resolution carotid ultrasound was performed to assess the presence of carotid plaque and intima-media thickness (IMT). Arterial stiffness was measured by brachial-ankle pulse wave velocity (PWV) and augmentation index (AIx). Serum calprotectin level was measured by QUANTA Lite Calprotectin Extended Range ELISA kit from (INOVA Diagnostics, San Diego, CA, USA).

Results: 29/78 (38%) of patient had carotid plaque (CP+). Subject in CP+ group were of older age and higher inflammatory burden in terms of higher number of swollen joint and longer disease duration. The use of statins were also higher in CP+ group. Serum calprotectin level were significantly higher in CP+ group (639.2ng/ml ±378.2 in CP- group vs 911.8ng/ml ±429.4 in CP+ group, $p=0.005$) (Figure 1). Using multivariate logistic regression analysis, higher level of ln calprotectin were significantly associated with presence of carotid plaque (OR: 3.25, 95%CI: 1.22 to 8.69, $p=0.019$) after adjusting for baseline covariates. There was also significant correlation between calprotectin level and C-Reactive Protein (CRP) ($r=0.237$, $p=0.037$), mean IMT ($r=0.301$, $p=0.021$) and maximum IMT ($r=0.265$, $p=0.043$). However, no significant association were observed between calprotectin level and PWV or AIx.

Figure 1.

Conclusion: Increased calprotectin level were associated with presence of plaque and increased IMT. Serum calprotectin may be a novel biomarker for assessing CV risk in patient with PsA.

Table 1. Multivariate analysis for factors associated with presence of carotid plaque.

	OR	95% CI	p
Disease duration (years)	1.10	1.02 to 1.19	0.018
Ln Calprotectin	3.25	1.22 to 8.69	0.019

*Factors included in the multivariate analysis: age, gender, disease duration, swollen joint count, hyperlipidemia, Framingham 10-year CVD risk >10%, current use of statins, and calprotectin level

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AB0572

CARPAL TUNNEL SYNDROME IN PATIENTS WITH PSORIATIC ARTHRITIS; ULTRASONOGRAPHY AND MAGNETIC RESONANCE IMAGING FINDINGS

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Background: Carpal tunnel syndrome(CTS) is the most common form of entrapment neuropathies, caused by compression of the median nerve in the carpal tunnel at the wrist. But there is no gold standard technique for diagnosing CTS. Electrodiagnostic studies (EDS) are generally used but have some limitations. Recent years, magnetic resonance imaging(MRI) and ultrasonography(US) have facilitated the diagnosis of CTS. The median nerve cross section area(CSA) measured by US or MRI has been found to be associated with CTS[1][2]. CTS is usually idiopathic but it can be seen more in some disease. Psoriatic arthritis(PsA) occurs in up to 30% of people with psoriasis and can have serious debilitating effects on the peripheral joints, spine, tendon insertions, and fingers[3]. Because of arthritis, steroid use and flexor tenosynovitis play an important role in the pathogenesis of CTS, we think that CTS can be seen more in PsA patients.

Objectives: We aimed to investigate the CTS in PsA patients with EDS, US and MRI than compare them with healthy controls.

Methods: 68 people, including 39 PsA (according to CASPAR criteria) and 28 healthy volunteers were included in study within 1 year. EDS, US and MRI were performed within maximum 2 weeks, and measurements were made by different doctors who were blind to other measurements. EDS was started with median and ulnar nerve motor conduction study than continued with sensory conduction studies. CTS diagnose was made according to the routine laboratory standards. The CSA measurement was made from the inner border of the hyperechoic ring around median nerve by using continuous tracing method at pisiform bone level. US examinations were performed with a high frequency linear transducer (4-14 MHz), MRI examinations were performed on a 3-T imaging system. The statistical analyses were performed with Statistical Package for the Social Science Program Version 22. Descriptive statistics, T tests, chi-square test, Pearson correlation test were used.

Results: No statistically significant difference was found between the groups for demographic characteristics. 12 (30.76%) of 39 PsA patients had CTS, whereas CTS was not detected in the control group($p=0.001$). US and MRI show larger CSA in PsA patients compared to the healthy control group($9.49 \pm 3.00 \text{ mm}^2$ vs $8.30 \pm 1.73 \text{ mm}^2$ $p=0.005$, $11.24 \pm 3.41 \text{ mm}^2$ vs $9.35 \pm 1.81 \text{ mm}^2$ $p<0.001$); in patients with CTS compared to others($11.63 \text{ mm}^2 \pm 3.25$ vs $8.60 \pm 2.26 \text{ mm}^2$ $p=0.002$, $13.37 \pm 3.37 \text{ mm}^2$ vs $9.90 \pm 1.58 \text{ mm}^2$ $p<0.001$) and in PsA patients which have CTS compared to PsA patients with normal EDS($11.63 \pm 3.25 \text{ mm}^2$ vs $8.87 \pm 2.64 \text{ mm}^2$ $p=0.001$, $13.37 \pm 3.37 \text{ mm}^2$ vs $10.52 \pm 3.15 \text{ mm}^2$ $p=0.003$). When the CSA compared PsA patients which have normal EDS and healthy volunteers; US (8.87 ± 2.64 vs 8.30 ± 1.73 $p=0.180$) and MRI (10.52 ± 3.15 vs 9.35 ± 1.81 $p=0.026$) show larger CSA in PsA patients. But difference isn't statistically significant for US measurements. The Pearson correlation coefficient between MRI and US measurements of the CSA was 0.85 ($P<0.001$).

Conclusion: CTS is more common in patients with PsA. The relationship between CTS diagnosed by EDS and CSA measured by US or MRI was observed in both PsA patients and all participants. Diagnosis can be supported by US or MRI in patients who can not undergo EDS or who do not accept EDS. For PsA patients, cut off values obtained from normal people should not be used. The limitations of our study were that our CTS population was small and most of them was mild. We think that this study will be the precursor of CTS studies in PsA patients.

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AB0573

DUPILUMAB-INDUCED ENTHESITIS/ARTHRITIS IN PATIENTS WITH ATOPIC DERMATITIS: A RETROSPECTIVE OBSERVATIONAL STUDY

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Background: Atopic dermatitis (AD) is a common skin condition with a prevalence of 2–10% in adults¹. IL-4 and IL-13 play a key role in the pathogenesis. Dupilumab, a human IgG₄ monoclonal antibody binding the alpha subunit of the IL-4 receptor, blocking IL-4 and IL-13 signaling, has important efficacy in this difficult to treat disease. We first reported a musculoskeletal (MSK) adverse effect of enthesitis/arthritis developing in 3 patients in 2019².

Objectives: To report the ongoing experience at our centre of this new clinical paradigm, incidence and patient progress including clinical presentation, imaging and management.

Methods: Clinical and radiological data was collected from electronic case records of all cases presenting with features of enthesitis/arthritis between October 2018 and January 2021.

Results: Since initiation of dupilumab at GSTT, approximately 400 adults with moderate-to-severe AD have received at least one dose. Of these, 23 patients (14 men, 9 women) had the clinical syndrome of inflammatory enthesitis/tenosynovitis/arthritis. Nine patients had both enthesitis and arthritis, 10 enthesitis, 3 enthesitis and tenosynovitis and 1 arthritis only. Four of these also reported new onset inflammatory back pain symptoms. None had a preceding history of arthritis or enthesitis. Median onset of symptoms following initiation of dupilumab was 4 months. However, onset of symptoms ranged between 2 weeks and 48 months. Imaging (US/MRI) was performed in 18 patients, 11 with Doppler US positive enthesitis confirming clinical findings. Most common sites were lateral epicondyles, achilles and patella tendons. Two patients with more disabling symptoms had MRI confirmed gluteus medius and hamstring enthesitis and arthritis. Spine and SI joint MRI in 4 patients was negative. Most patients had normal inflammatory markers except 2; CRP 117, ESR 96 and CRP 13, ESR 10. All patients had very good AD response to dupilumab, average EASI score before and after Dupilumab was 21 and 4.2 respectively. One patient developed skin manifestations of guttate psoriasis, with subsequent disabling arthritis/enthesitis. Due to the life-changing beneficial effect of dupilumab therapy most patients did not want to stop therapy. We used NSAID therapy, etoricoxib/celecoxib/naproxen for symptom relief which was usually partly effective allowing continuation of dupilumab treatment in most. Five patients with severe MSK symptoms stopped Dupilumab completely. Some patients temporarily paused therapy but re-started as their AD became worse, often changing from the usual 2 weekly to 4 weekly dosing. Most patients continuing dupilumab had persistent MSK symptoms. Four patients who stopped dupilumab were treated with baricitinib, which has potential efficacy for both MSK symptoms and AD. Two did not tolerate it and remained on NSAID therapy.

Conclusion: These data further characterize a new syndrome of enthesitis and/or arthritis induced by Dupilumab. In those with mild MSK symptoms use of NSAIDs allows continuation of full-dose dupilumab, in moderate cases reducing dupilumab dose frequency plus NSAID therapy maintains function. Most patients had on-going MSK symptoms. In more severe cases JAKi therapy may be an effective strategy. Our initial hypothesis that inhibition of IL-4/13 by dupilumab triggers an IL-17/23/TNF-mediated inflammatory MSK syndrome in some patients is supported by a recent in vitro study³.

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AB0574

UVEITIS IN 406 PATIENTS WITH PSORIATIC ARTHRITIS. STUDY FROM A SINGLE UNIVERSITY CENTER

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Background: Uveitis is an extraarticular manifestation of psoriatic arthritis (PsA) and it has been described as the most frequent ocular manifestation in PsA.

Uveitis in PsA has been described to be more likely insidious in onset, continuous, posterior, and active bilaterally compared with uveitis in patients with Spondyloarthritis (Paiva ES, et al. Ann Rheum Dis. 2000;59: 67-7). Anti-TNF agents, especially monoclonal antibodies have been effective in prevention and treatment of refractory non-infectious uveitis.

Objectives: Our aim was to assess **a)** epidemiology and clinical features of uveitis associated to PsA, **b)** to compare patients who developed uveitis and those who did not and **c)** its relationship with biological treatment used in PsA.

Methods: We conducted a cross-sectional study of 406 patients with PsA from a single reference University Hospital with: **a)** PsA classified by CASPAR criteria and, **b)** diagnosis of uveitis by expert ophthalmologists. Demographic features, clinical findings, complementary tests, occurrence of other extraarticular manifestations and treatment were recorded.

Results: We studied 406 (202 women/204 men) patients with PsA, mean age of 46.3±12.3 years.

Uveitis was observed in 20 (12 women/8 men) of 406 patients (prevalence 4.9%); mean age of 43.1±14.5 years. Uveitis was most frequently anterior (80%), unilateral (80%), of acute onset (100%), and recurrent (50%).

In the comparative study between patients who developed uveitis and who did not (Table 1), in patients with uveitis was more frequent the presence of HLA-B27 positive (45%), sacroiliitis in MRI (25%), ocular surface pathology (10%), and higher mean PsAID score (4.8±2.5).

Ten (50%) patients with PsA related uveitis received biological therapy, 12 (60%) of the treatments were anti-TNF monoclonal antibodies and 1 (5%) was etanercept. The 2 (10%) remaining therapies were other biological therapy non anti-TNF (Figure 1).

Figure 1. Biologic immunosuppressive drugs in PsA patients related uveitis.

Conclusion: Uveitis was observed in 4.9% of patients with PsA. Most of the PsA related uveitis had an acute onset with anterior and unilateral pattern. HLA-B27 positive, presence of sacroiliitis on MRI and ocular surface pathology were more frequent in patients who developed uveitis. PsAID score is higher in patients with uveitis.

Table 1. General features of 406 patients with PsA. Comparison between with and without uveitis.

	Overall (n= 406)	Uveitis (n= 20)	Non uveitis (n= 386)	p
Main general features				
Age, years, mean±SD	46.3±12.3	43.1±14.5	46.5±12.2	0.225
Sex, women/men, N (%) of women)	202/204(49.8)	12/8 (60)	218/168 (56.5)	0.757
HLA-B27 positive, N (%)	38(9.4)	9 (45)	29 (7.5)	0.000*
PsA pattern				
Axial pattern, N (%)	48 (11.8)	4 (20)	44 (11.4)	0.277
Peripheral pattern, N (%)	236 (58.1)	12 (60)	224 (58)	0.862
Mixed pattern, N (%)	122 (30.1)	4 (20)	118 (30.6)	0.315
PsA Scores				
PsAID, mean±SD	3±2.4	4.8±2.5	2±2.6	0.003*
Radiological features				
Sacroiliitis on MRI, N (%)	37 (9.1)	5 (25)	32 (8.3)	0.027*
Other extraarticular manifestations				
Inflammatory bowel disease, N (%)	21 (5.2)	2 (10)	19 (4.9)	0.277
Ocular surface pathology, N (%)	5 (1.2)	2 (10)	3 (0.8)	0.021*
Biologic treatments				
bDMARDs, N (%)	280 (68.9)	15 (75)	265 (68.7)	0.550
Etanercept	31 (7.6)	1 (5)	30 (7.8)	0.999
TNFi monoclonal antibodies	160 (39.4)	12 (60)	148 (38.3)	0.053

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