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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.

REFERENCES:

- Beck L et al. Dupilumab Treatment in Adults with Moderate-to-Severe Atopic Dermatitis. July 10, 2014. N Engl J Med 2014; 371:130-139
- Willsmore ZN et al. Development of inflammatory arthritis and enthesitis in patients on dupilumab: a case series. Br J Dermatol 2019; 0. doi:10.1111/bjd.18031.
- Bridgwood C et al. Regulation of enthesal IL-23 expression by IL-4 and IL-13 as an explanation for arthropathy development under dupilumab therapy. Rheumatology (Oxford). 2020 Nov 30;keaa568. doi: 10.1093/rheumatology/keaa568

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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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AB0575

FACTORS ASSOCIATED WITH PSORIATIC ARTHRITIS ACTIVITY IN CLINICAL PRACTICE

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Background: Psoriatic Arthritis (PsA) is a multifaceted disease with various clinical domains. A number of composite indices has been developed recently [1, 2]. DAPSA (Disease Activity in Psoriatic Arthritis) is the valid instrument for assessment of PsA activity focused on peripheral arthritis. But other factors can influence on PsA activity and haven't studied yet.

Objectives: to identify factors that are associated with PsA activity based on the data from RU-PsART cohort.

Methods: 117 (M/F=63(54%)/54(46%)) patients (pts) with active PsA fulfilling the CASPAR criteria mean age 44.3 ± 10.9 yrs, mean DAPSA 37.8±21.4, mean PsA duration 73.4±78.4 mo, mean PsO duration 213.4±152.5 mo, were included. Data was collected from 43 rheumatology centers of the Russian Federation. All pts underwent standard clinical examination of PsA activity at enrollment. DAPSA, ESR (mm/h), CRP (mg/L), dactylitis, enthesitis by LEI plus Plantar Fascia, BSA (%), HAQ-DI and fatigue by Fatigue Scale (V.4) FACIT (Functional Assessment of Chronic Illness Therapy), BMI (kg/m²) were evaluated. DAPSA > 28 indicate high activity. Multi-dimensional step-by-step discriminant analysis was used to identify a group of features that are associated with high PsA activity by DAPSA. M±SD, %, OR 95% (CI) were performed.

Results: The following features proved to be the most informative: LEI (p=0.739), tenderness of the Plantar Fascia (p=0.003), age (p=0.0004), FACIT (p=0.092), PsA duration >2 yrs (p=0.013), BSA>3% (p=0.021), Nail PsO (p=0.092), BMI (kg/m²) (p=0.22). The area under the ROC-curve (AUC) 0.768, 95% CI (0.624-0.913). Sensitivity/ Specificity of model 77.0%/ 69% accordingly (Figure 1).

Figure 1 ROC analysis of the Sensitivity and Specificity of the model.

Conclusion: Weight, enthesitis, skin and nail PsO severity, fatigue and PsA duration >2 yrs are associated with high PsA activity as well as articular symptoms.

New combination indices based on these features should be developed and validated in clinical practice.

REFERENCES:

- [1] Helliwell P, et al. The development of candidate composite disease activity and responder indices for psoriatic arthritis (GRACE project). *Ann Rheum Dis.* 2013; 72: 986-91. doi: 10.1136/annrheumdis-2012-201341.
- [2] Salaffi F, et al. Disease Activity in Psoriatic Arthritis: Comparison of the Discriminative Capacity and Construct Validity of Six Composite Indices in a Real World. *BolMed Res Int* 2014; 2014:52805 http://dx.doi.org/10.1155/2014/528105

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AB0576

BONE EROSION IN PSORIATIC ARTHRITIS ASSOCIATED WITH PSORIASIS DURATION, SKIN, NAIL AND JOINT DISEASE SEVERITY

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Background: Psoriatic arthritis (PsA) is heterogeneous in its clinical presentation and disease course, but many patients (pts) develop a destructive form of arthritis. Psoriasis (PsO) precedes arthritis by an average of 7 years. [1]. Theory of transition from PsO to PsA has been proposed recently [2]. But association between skin disease severity and joint disease are still unclear.

Objectives: to evaluate association between bone erosion, PsO duration, skin and nail disease severity in PsA pts based on data from clinical practice (RU-PsART cohort).

Methods: 737 (M/F=350/387) PsA pts fulfilling the CASPAR criteria were included. Mean age 47.4±12.7 years (yrs), PsA duration 55[17;120] mos., PsO duration 165[74.5;292] mos., mean DAPSA 23.3[14;36.9] mos., HAQ-DI - 0.98 [0.5;1.38], CRP - 7.4 [2.1;18] mg/L. All pts underwent standard clinical examination (tender joints count (TJC)/68, swelling joints count (SJC)/66, CRP (mg/L), DAPSA, dactylitis, enthesitis by LEI + Plantar Fascia (PF), HAQ-DI. Mild disease was defined as body surface area (BSA)≤10%, moderate to severe as BSA>10%. The presence/absence of nail PsO was evaluated. X-ray of feet and hand were done in 622 out of 737 pts. The one-factor model of logistic regression was used to identify a group of features that are associated with achievement MDA. M±SD, Me [Q25; Q75], Min-Max, %, t-test, Pearson-χ², Mann-Whitney tests, ORs with 95% CI were performed. All p<0.05 were considered to indicate statistical significance.

Results: PsO precedes of PsA by an average of 9.2 years. BSA≤10% was found in 615 out of 672 pts (91.5%), BSA>10% - in 57 out of 672 pts (8.5%). Nail PsO were seen in 230 out of 737 (31.2%). Bone erosion was found in 237 out of 622 of pts (38.1%). Among these pts nail PsO were seen in 67 out of 237 pts (28.3%). Enthesitis found in 236 out of 737 pts (42.1%), dactylitis - in 197 out of 731 pts (27%), axial PsA - in 315 out of 731 pts (43.1%). Bone erosion significantly associated with PsO duration more than 5 yrs., skin and nail PsO severity, high PsA activity by DAPSA, axial manifestation and duration of PsA > 36 mos. (Figure 1).

Figure 1 Forest plot of factors associated with bone erosion in PsA pts.