

# Arthralgia with risk of progression to psoriatic arthritis in a large cohort of patients: role of ultrasound

*Mareco Jonatan, Ruta Santiago, Perez Ronald, Almada Felicia, Garcia-Salinas Rodrigo*

Rheumatology Unit, Hospital Italiano de La Plata, Buenos Aires, Argentina.

**Background:** The psoriasis- to- psoriatic arthritis (PsA) transition offers a unique opportunity to identify individuals at increased risk of developing PsA and to implement preventive strategies.

**Objectives:** To estimate the frequency of **arthralgia with risk of progression to PsA (ARP-PsA)** in a large cohort of patients and to estimate the incidence of PsA at one year in ARP-PsA patients analyzing clinical, laboratory and imaging predictor variables.

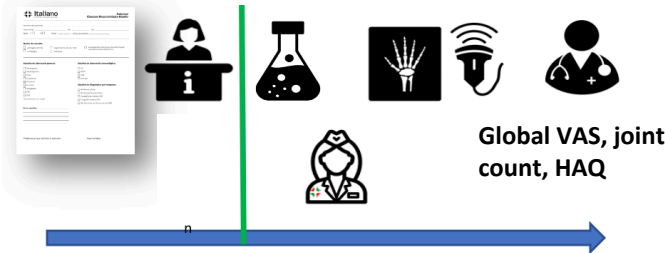
**Methods:** Prospective cohort study, include patients over 18 years of age who were admitted consecutively for arthralgias, to the "Reuma-check" program (fig 1). In this, the baseline included: laboratory, X-rays, PD ultrasound (PDUS) and clinical interview. Each evaluator (laboratory, imaging and clinical) were blinded to the data of the other studies. Presence of psoriasis (Pso) and family history (FH) were investigated. Patients with previous diagnosis of PsA were excluded.

Features	ARP-PsA no PsA (85)	ARP-PsA yes PsA (34)	p	RR (95%CI)
Age (years), mean (SD)	48 (14)	49 (15)	0.9	
Female, %	78	61	<b>0.06</b>	0.4 (0.2-1)
Years of education, median (IQR)	14 (3)	13 (3)		
Time between the onset of symptoms and the baseline visit (months), mean (SD)	13 (30)	18 (30)	0.2	
Smoking, %	36	44	0.4	1.3 (0.6-3)
Cardiometabolic comorbidities, %	40	35	0.6	0.6 (0.3-1.8)
Family psoriasis, %	80	47	<b>&gt;0.001</b>	0.2 (0.1-0.5)
Pso + Family history Pso	8	26	<b>0.008</b>	4 (1.3-12)
Cutaneous psoriasis, %	26	73	<b>&gt;0.001</b>	8 (3-20)
Pso duration time (years) median (IQR)	3 (15)	15 (15)	<b>0.03</b>	
Patient global VAS (0-100), mean (SD)	50 (23)	60 (15)	<b>0.04</b>	
Tender joints (28), median (IQR)	2 (4)	1.5 (3)	<b>0.05</b>	
Arthralgia less than one year, %	38	19	<b>0.04</b>	0.4 (0.1-0.8)
Morning stiffness, %	16	12	0.6	0.7 (0.2-2)
Squeeze test +, %	22	31	0.3	1.5 (0.6-4)
ESR, mean (SD)	17 (13)	18 (16)	0.6	
CRP +, %	21	28	0.6	1.2 (0.8-1.7)
CRP, median (IQR)	1 (2.7)	1 (4)	0.4	
HAQ, median (IQR)	0.5 (0.8)	0.8 (0.75)	0.1	
X-ray bone erosions, %	4	26	<b>0.004</b>	7 (2-28)
X-ray, joint narrowing, %	25	19	0.5	7 (0.2-2)
Ultrasound synovitis, Tenosynovitis, %	8	12	0.5	1.6 (0.4-6)
Ultrasound synovitis, Gray Scale, %	5	21	<b>0.01</b>	5 (1.3-18)
Ultrasound synovitis, Power Doppler signal, %	1.3	12	<b>0.01</b>	10 (1.1-98)
Ultrasound, Enthesopathy findings, %	4	53	<b>&gt;0.001</b>	25 (6.5-99)

Table 1: Clinical, laboratory and imaging characteristics between ARP-PsA patients who did and did not develop PsA.

## "Reuma-check"

**ARP-PsA: Patients with arthralgia plus Pso and/or FH.**  
**119- 8.4% (95% CI: 7-10)**



**1 Year**

**PsA.**  
**34- (29%, 95%CI: 20-37)**

ARP-PsA only Pso (n 32), only FH (n 70) or Combine (n 17) developed PsA at 1 year: 57%, 11% and 53% respectively.

### Multivariate analysis - predictor variables (1 year)

- Combination of Pso plus FH (OR: 32; CI 95%: 1.2-1026),
- Synovitis by PDUS (OR: 31; CI 95%: 1.1-967),
- US enthesopathy findings (OR: 470; CI 95%: 13-1600)
- Tender joint count (OR 0.2 CI95% 0.05-0.6).
- Longer duration of Pso: median years: 15 vs 3.

Statistical analysis: descriptive statistics, Chi2 test, Fisher's exact test, Student's T test and Mann Whitney was performed. A multivariate logistic regression: dependent variable the final diagnosis of PsA at year.

**The frequency of ARP-PsA in our cohort was 8.4%, of whom 29% developed PsA at 1-year follow-up. The main predictor variables were US findings (synovitis and enthesopathy), as well as the combination of Pso plus FH, a lower number of tender joints, and a longer duration of the Pso.**