

CASE 1:

PALINDROMIC RHEUMATOID ARTHRITIS WITH ATYPICAL FEATURES



- **Name:** Mrs. Claire D.*
- **Age:** 42 years
- **Sex:** Female
- **Comorbidities:** Autoimmune hypothyroidism, family history of aunt with PR

History

- Mrs. D. has been experiencing recurrent episodes of acute joint pain for 3 years, mainly in the wrists, fingers (MCPs), and knees.
- These episodes last 24 to 72 hours, with complete symptom resolution between attacks.
- She reports significant fatigue and occasional moderate fever during episodes.
- Imaging has shown no joint damage. The episodes are unpredictable, sometimes triggered by stress or viral infections.

Laboratory and imaging

- CRP: Elevated during episodes (up to 45 mg/L), normal between episodes
- ESR: Variable
- RF: Moderately positive
- Anti-CCP: Negative
- ANA: Positive at low titer
- Imaging (MRI and joint ultrasound): No erosions or persistent synovitis

* Fictitious name

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Mrs. Claire D.*, 42 years

* Fictitious name

Treatment history

- NSAIDs (ibuprofen, naproxen): Partial relief
- Short corticosteroid courses (prednisone 10 mg/day for 5 days): Effective but rapid recurrence
- Hydroxychloroquine: Ineffective
- Methotrexate: Discontinued after 3 months due to digestive intolerance
- Colchicine: Introduced with partial improvement in episode frequency

Current treatment

- Colchicine 1 mg/day
- NSAIDs as needed

Clinical notes

- Diagnosis of palindromic rheumatism with autoinflammatory component is retained with constitutional symptoms.
- The cytokine panel showed strong innate immune activity.
- Strategy focuses on preventing episodes, monitoring for progression to classic RA, and psychological support.
- IL-1 targeted biologic therapy (anakinra) is considered to aim at the innate immune system, if symptoms worsen or evolve into persistent RA.

Patient education

- Mrs. D. was informed that palindromic rheumatism is a rare episodic form of inflammatory arthritis.
- She understands the potential progression to classic RA. She is encouraged to keep a symptom journal, maintain gentle physical activity, manage stress, and follow an anti-inflammatory diet.
- An online support group was recommended.

6CKine = C-C motif chemokine ligand 21; AIRA = autoinflammatory rheumatoid arthritis; ANA = antinuclear antibodies; BCA = B-cell-attracting chemokine; CCP = cyclic citrullinated peptide; CRP = C-reactive protein; CTACK = cutaneous T-cell-attracting chemokine; EGF = epidermal growth factor; ENA = epithelial-derived neutrophil-activating protein; ESR = erythrocyte sedimentation rate; FGF = fibroblast growth factor; FLT-3L = FMS-like tyrosine kinase-3 ligand; G-CSF = granulocyte colony-stimulating factor; GM-CSF = granulocyte-macrophage colony-stimulating factor; GRO = growth-regulated oncogene; I-309 = C-C motif chemokine ligand 1; IFN = interferon; IL = interleukin; IL-1RA = interleukin-1 receptor antagonist; IP-10 = interferon-gamma-induced protein-10; LIF = leukemia inhibitory factor; M-CSF = macrophage colony-stimulating factor; MCP = metacarpophalangeal; MCP-3 = monocyte chemoattractant protein-3; MDC = macrophage-derived chemokine; MIG = monokine induced by interferon-gamma; MIP = macrophage inflammatory protein; MRI = magnetic resonance imaging; NOMID = neonatal-onset multisystem inflammatory disease; NSAIDs = non-steroidal anti-inflammatory drugs; PDGF = platelet-derived growth factor; PR = palindromic rheumatoid arthritis; RA = rheumatoid arthritis; RANTES = regulated on activation, normal T-cell expressed and secreted; RF = rheumatoid factor; SCF = stem cell factor; SDF = stromal cell-derived factor; sCD40L = soluble CD40 ligand; TARC = thymus and activation-regulated chemokine; TGF α = transforming growth factor-alpha; TNF = tumor necrosis factor; TPO = thrombopoietin; TRAIL = TNF-related apoptosis-inducing ligand; TSLP = thymic stromal lymphopoietin; VEGF-A = vascular endothelial growth factor-A

Analyte	Results (pg/mL)	Reference Interval*
GROUP A – INNATE / AUTOIMMUNE INFLAMMATION		
FGF-2 [†]	271	HIGH 16.0 – 145
IFN-α2	229	HIGH 11.0 – 117
IL-1α	198	HIGH 0 – 58.6
IL-1β [†]	121	HIGH 0 – 39.0
IL-2 [†]	16.1	HIGH 0 – 3.3
IL-17A [†]	33.2	HIGH 0 – 14.5
IL-17E/IL-25 [†]	2592	HIGH 54.0 – 1315
MIP-1α	105	HIGH 11.5 – 76.5
GROUP B1 – PRO-INFLAMMATORY CYTOKINES		
Fractalkine	134	41.0 – 218
GM-CSF [†]	<3.2	0 – 51.7
IFNγ	11.4	HIGH 0 – 8.9
TNFα	47.1	12.0 – 122
GROUP B2 – T-HELPER CELL MEDIATED INFLAMMATION		
IL-4 [†]	2.7	0 – 3.0
IL-5	44.0	HIGH 0.5 – 19.8
IL-9 [†]	13.7	0 – 14.2
IL-12p40	313	HIGH 7.0 – 228
IL-12p70 [†]	8.6	0 – 15.4
IL-13 [†]	51.9	5.0 – 153
IL-22 [†]	<16.0	0 – 133
MCP-3	16.6	3.7 – 27.3
TNFβ	3.5	0 – 33.1
GROUP B3 – INNATE INFLAMMATION / CYTOKINE 'STORM'		
BCA-1	84.8	12.0 – 252
FLT-3L	20.0	0.6 – 30.0
I-309	1.1	0.4 – 4.7
IL-1RA	10256	HIGH 0.8 – 34.0
IL-6	1.6	0.2 – 14.4
IL-8	31.1	HIGH 0 – 13.5
IL-10	5.8	0 – 18.8
IL-18	76.5	3.0 – 270
IL-27	3374	265 – 4087
IP-10	244	19.0 – 336
M-CSF	78.9	3.0 – 147
MCP-1	454	HIGH 33.0 – 298
MCP-2	28.4	9.7 – 49.6
MIG	4942	346 – 5598
MIP-1β [†]	30.4	9.0 – 57.6

Analyte	Results (pg/mL)	Reference Interval*
GROUP C – UNCLASSIFIED ANALYTES		
RANTES	460	167 – 1844
TRAIL	42.1	12.0 – 115
GROUP D – TYPE 2 / TYPE 3 IMMUNE RESPONSE		
Eotaxin-3	11.8	0 – 25.7
IL-16 [†]	59.0	0 – 385
IL-17F [†]	16.2	0 – 48.1
IL-20 [†]	230	0 – 546
IL-21 [†]	3.3	0 – 10.0
IL-23 [†]	615	0 – 1558
IL-28A [†]	40.1	0 – 377
IL-33 [†]	21.4	0 – 55.1
LIF [†]	12.2	0 – 17.1
MCP-4 [†]	33.2	0 – 82.6
SCF [†]	8.9	0 – 55.4
TGFα	6.8	0 – 17.5
TPO [†]	108	0 – 623
TSLP	2.0	0 – 10.6
GROUP E – EOSINOPHILIC INFLAMMATION		
Eotaxin	56.00	HIGH 5.4 – 53.8
Eotaxin-2	680	34.0 – 1249
GROUP F – HEMATOPOIETIC GROWTH FACTORS		
G-CSF [†]	50.3	0 – 69.1
IL-3	2.7	0 – 4.2
IL-7	2.2	0 – 13.1
IL-15	87.1	HIGH 1.2 – 29.6
GROUP G – HOMEOSTATIC CHEMOKINES		
6CKine	282	41.0 – 892
CTACK	849	323 – 1526
MDC	659	90.0 – 1160
MIP-1δ [†]	2767	576 – 5356
SDF-1α+β	2044	495 – 7690
GROUP H – PLATELET ACTIVATION / WOUND HEALING		
EGF	60.0	0 – 94.8
ENA-78	193	19.0 – 1142
GROα	39.8	0 – 41.2
PDGF-AA	983	20.0 – 1347
PDGF-AB/BB	10362	2045 – 18756
sCD40L	1461	HIGH 20.0 – 1199
TARC	31.3	3.0 – 135
VEGF-A	24.2	0 – 180

* Reference Intervals estimated by data-mining ≥9200 PLASMA samples drawn from both healthy and pathological subjects.

† Upper reference limit defined as the 85th percentile of distributions which were incompatible with the data-mining algorithm.