

CASE 3:

RA WITH AN ATYPICAL PATHOGENIC NLRP3 MUTATION



- **Name:** Mrs. Fatima R.*
- **Age:** 38 years
- **Sex:** Female
- **Comorbidities:** No notable medical history, North African origin, no family history of unexplained recurrent fever

History

- Mrs. R. has had seropositive RA for 2 years, affecting the small joints of the hands and feet.
- She reports episodes of recurrent fever, abdominal pain, and migratory arthralgias since adolescence, never previously investigated.
- Due to the history of recurrent fever, genetic testing was performed and revealed a pathogenic gain-of-function mutation in the NLRP3 gene.

Laboratory and imaging

- CRP: Chronically elevated (20–40 mg/L)
- ESR: Elevated
- RF: Positive
- Anti-CCP: Positive
- ANA: Negative
- Genetic testing: Confirmed NLRP3 mutation c.1880A>G, p (Glu627Gly)
- Imaging: Early erosions

* Fictitious name

CASE 3:

RA WITH AN ATYPICAL PATHOGENIC NLRP3 MUTATION



Mrs. Fatima R.*, 38 years

* Fictitious name

Treatment history

- Methotrexate: Partial response
- Adalimumab: Ineffective
- Corticosteroids: Temporary improvement
- Anakinra (IL-1 inhibitor): Improvement in systemic and joint symptoms

Current treatment

- Anakinra 100 mg/day SC
- Methotrexate 15 mg/week
- Genetic and rheumatologic follow-up

Clinical notes

- Diagnosis is RA with genetic autoinflammatory component.
- Management focuses on IL-1 inhibition.
- Family genetic screening is underway.
- Treatment is well tolerated and inflammatory markers are normalized.
- Positive clinical response; patient is now able to completely close hand without pain.

Patient education

- Mrs. R. was informed of the genetic nature of her disease and the importance of regular anakinra administration.
- She understands her RA is atypical and linked to excessive inflammasome activation due to a concomitant mutation in the NLRP3 gene.
- For now, she lacks the classic feature of FCAS.
- She was referred to medical genetics for family counselling.
- She participates in a support group for rare autoinflammatory diseases.

ANA = antinuclear antibodies; CCP = cyclic citrullinated peptide antibodies; CRP = C-reactive protein; ESR = erythrocyte sedimentation rate; FCAS = familial cold autoinflammatory syndrome; IL = interleukin; RA = rheumatoid arthritis; RF = rheumatoid factor; SC = subcutaneous