

Polymyalgia Rheumatica Treated with Sarilumab: A Case Report

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Background: Polymyalgia rheumatica (PMR) is characterized by bilateral subacute-to-chronic pain and stiffness of the shoulders and hip girdle with an elevated erythrocyte sedimentation rate (ESR), elevated C-reactive protein (CRP), and a normal creatinine kinase. Typically, rapid improvement is shown in PMR upon treatment with oral glucocorticoids. However, prolonged use can lead to significant side effects. Methotrexate is often used as a steroid-sparing agent, but some patients may not respond to or tolerate it. This case highlights the potential of sarilumab as a therapeutic option in PMR refractory to both methotrexate and glucocorticoids.

Case Presentation: A 74-year-old white male with chronic PMR presented to the office with continued consistent breakthrough 7/10 PMR pain (with 10 being the most severe) despite treatment with 20 mg prednisone and 20 mg methotrexate for the past six years. Upon presentation three months ago, his prednisone dosage was weaned from 20 mg to 5 mg and methotrexate was discontinued due to increasing breakthrough PMR pain, skin thinning, and decreased wound healing.

Vitals and physical exam findings were within normal limits outside of decreased range of motion of shoulders bilaterally. His latest labs showed an elevated ESR of 37 and CRP level of 15.3 consistent with ongoing PMR. Due to the refractory nature of his symptoms and prolonged steroid use, treatment with sarilumab was initiated.

Conclusion: Sarilumab is a human IgG1 monoclonal antibody that binds to IL-6 receptors, inhibiting IL-6 signaling. Several clinical trials have demonstrated the safety, efficacy, and tolerability of Sarilumab in RA patients (1). Furthermore, studies comparing Sarilumab with Tocilizumab in terms of safety and tolerability found no clinically meaningful differences (2). Sarilumab has a greater affinity to IL-6 than that of tocilizumab, which may even suggest a potential superiority (3).

References

1. Dejaco C, Singh YP, Perel P, Hutchings, A., Camellino, S.M., Abril, A., Bachta, A., Balint, P., Barraclough, K., Bianconi, L., Buttgereit, F., Carsons, S. Ching, D., Cid, M., Cimmino, M.,

Diamantopoulos, A., Docken, W., Duftner, C., Fashanu, B., Gilbert, K., Hildreth, P., Hollywood, J., Jayne, D., Lima, M., Maharaj, A., Mallen, C., Martinez-Taboada, V., Maz, M., Merry, S., Miller, J., Mori, S., Neill, L., Nordborg, E., Nott, J., Padbury, H., Pease, C., Salvarani, C., Schirmer, M., Schmidt, W., Spiera, R., Tronnier, D., Wagner, A., Whitlock, M., Matteson, E.L., Dasgupta, B., European League Against Rheumatism, American College of Rheumatology. *2015 Recommendations for the management of polymyalgia rheumatica: a European League Against Rheumatism/American College of Rheumatology collaborative initiative*. Ann Rheum Dis, 2015. **74**(10): pp. 1799-1807. doi:10.1136/annrheumdis-2015-207492

2. Pelechas, E., Voulgari, P.V., Drosos, A.A. *Clinical evaluation of the safety, efficacy, and tolerability of sarilumab in the treatment of moderate to severe rheumatoid arthritis*. Ther Clin Risk Manag, 2019. **15**: pp. 1073-1079. doi:10.2147/term.s167452

3. Devauchelle-Pensec, V., Berthelot, J.M., Cornec, D., Renaudineau, Y., Marhadour, T., Jousse-Joulin, S., Querellou, S., Garrigues, F., De Bandt, M., Gouillou, M., Saraux, A. *Efficacy of first-line tocilizumab therapy in early polymyalgia rheumatica: a prospective longitudinal study*. Ann Rheum Dis, 2016. **75**(8): pp. 1506-1510. doi:10.1136/annrheumdis-2015-208742