



Certolizumab pegol (Cimzia®) medication use evaluation

Joshua Christensen, PharmD; Kurt Vanden Bosch, PharmD

Background

Certolizumab pegol (Cimzia®) is a tumor necrosis factor (TNF) inhibitor with FDA approval to treat the following disease states: Crohn's disease, rheumatoid arthritis (RA), psoriatic arthritis, ankylosing spondylitis, non-radiographic axial spondylarthritis, and plaque psoriasis. Due to the high costs in treating these disease states this medication use evaluation (MUE) was conducted to evaluate the current use of this medication in our health system.

Methods

Through our electronic health record (EHR) we identified patients who received certolizumab pegol treatment from January 2021 through August 2021. These terms resulted in 24 unique patients receiving treatment. We looked specifically at the current dosing regimen, disease states being treated, and if the patient/provider considered the medication working. We also reviewed treatment locations and if standard indices were used by providers to report patient disease progression.

Patient Characteristics

Sex	Male: 7 (29%)	Female: 17 (71%)
Average Age	66.5 years	

Dosing Information

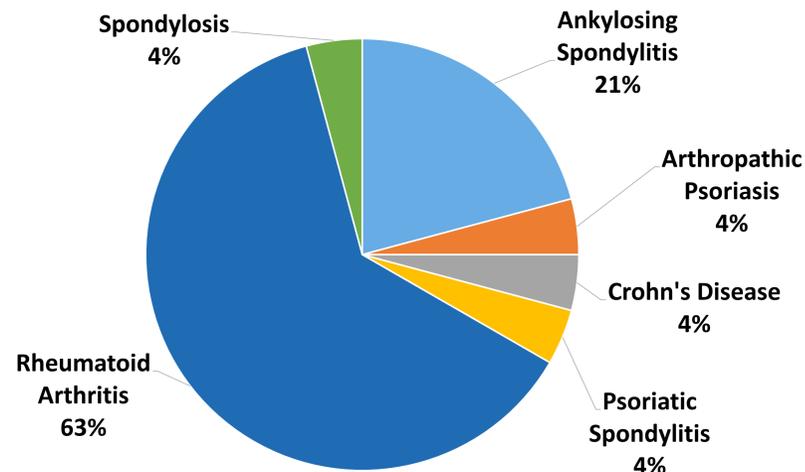
Dosing Regimen	Number of Doses	Number of Patients
400 mg every 4 weeks	154 doses	23 patients
200 mg every other week	16 doses	1 patient

Disease Indices

Rapid 3 RA pooled index of patient-reported core measures compiled by the American College of Rheumatology based on function, pain, and patient global estimate of status. Each of the 3 individual measures is scored 0 to 10, for a maximum of 30. Disease severity may be classified based on RAPID3 scores: >12 = high; 6.1-12 = moderate; 3.1-6 = low; or ≤ 3 = remission.

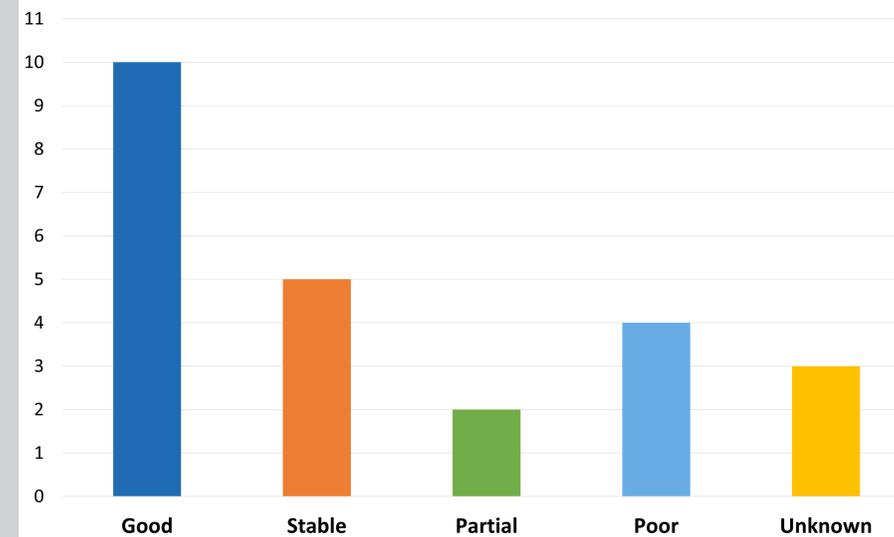
BASDAI Bath Ankylosing Spondylitis Disease Activity Index is a calculated sum of six questions (1 point each) pertaining to the five major symptoms of Ankylosing Spondylitis: fatigue, spinal pain, joint pain/swelling, areas of localized tenderness, morning stiffness and severity

Treatment Diagnosis



Graph 1: Compares the treatment diagnosis of the 24 unique patients receiving certolizumab pegol.

Reported response to certolizumab pegol



Graph 2: Patient and provider reported medication response provided by office visit notes during the study period.

Previous treatments patients received

TNF-α inhibitors	Other medications
• Adalimumab (Humira)	• Abatacept (Orencia)
• Etanercept (Enbrel)	• Ixekizumab (Taltz)
• Infliximab (Remicade)	• Leflunamide (Arava)
	• Methotrexate
	• Rituximab (Rituxin)
	• Tocilizumab (Actemra)
	• Tofacitinib (Xeljanz)

Results

- Certolizumab pegol was administered to 24 patients during the 8-month period. Of the 24 patients, 38% (n=9) started treatment during this period and 13% (n=3) of patients discontinued treatment.
- The most common uses of this drug were for Rheumatoid Arthritis (n=16) and Ankylosing Spondylitis (n=5).
- Traditional certolizumab pegol dose of 400 mg sq on weeks 1, 2, and 4 followed by 400 mg sq every 28 days was given in 96% of patients.
- 62% of patients reported stable to good response while on certolizumab pegol, many of whom had previously failed other therapies prior to starting certolizumab pegol.
- 87% RA patients reported at least one Rapid 3 score during the study period providing an average score of 8.8
- 80% Ankylosing Spondylitis patients reported at least one BASDAI score during the study period providing an average BASDAI score of 3.5.
- Certolizumab pegol was prescribed by eight different rheumatology providers during these eight months.
- Patients received injections at eight locations, both in rheumatology clinics and infusion centers throughout the health system.

Conclusion

- RA and Ankylosing Spondylitis guidelines do not prefer one TNF inhibitor over another.
- Certolizumab pegol is administered subcutaneously allowing for shorter treatment times and avoiding infusion related adverse events

During our eight-month medication review, 62% of patients reported a stable to improved response while receiving this medication. Due to the subcutaneous dosing convenience, good efficacy, and favorable pricing compared to other TNF inhibitors certolizumab pegol is a preferred drug for the treatment of rheumatoid arthritis and ankylosing spondylitis.

References

1. CIMZIA (certolizumab pegol) [package insert]. Smyrna, GA: UCB, Inc.; 2016
2. Pincus T, Yazici Y, Bergman MJ. RAPID3, an Index to Assess and Monitor Patients with Rheumatoid Arthritis, Without Formal Joint Counts: Similar Results to DAS28 and CDAI in Clinical Trials and Clinical Care. *Rheum Dis Clin N Am*. 2009;35(4):773-778. doi:10.1016/j.rdc.2009.10.008
3. BASDAI - an overview | ScienceDirect Topics. Accessed September 17, 2021. <https://www.sciencedirect.com/roseman.idm.oclc.org/topics/medicine-and-dentistry/basda>
4. Ward MM, Deodhar A, Gensler LS, et al. 2019 Update of the American College of Rheumatology/Spondylitis Association of America/Spondyloarthritis Research and Treatment Network Recommendations for the Treatment of Ankylosing Spondylitis and Nonradiographic Axial Spondyloarthritis. *Arthritis Rheumatol*. 2019;71(10):1599-1613. doi:10.1002/art.41042
5. Fraenkel L, Bathon JM, England BR, et al. 2021 American College of Rheumatology Guideline for the Treatment of Rheumatoid Arthritis. *Arthritis Care Res*. 2021;73(7):924-939. doi:10.1002/acr.24596
6. Lichtenstein GR, Loftus EV, Isaacs KL, Regueiro MD, Gerson LB, Sands BE. ACG Clinical Guideline: Management of Crohn's Disease in Adults. *Am J Gastroenterol*. 2018;113(4):481-517. doi:10.1038/ajg.2018.27