Comment on: Benchmarking tocilizumab use for giant cell arteritis

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Dear Editor,

It is with great interest we read the editorial on tocilizumab (TCZ) use in giant cell arteritis (GCA) published on 9th May, 2022 by Conway et al [1]. We write to share some of our data to add weight to the views expressed, particularly in relation to use of TCZ beyond one year in refractory cases with visual involvement.

In line with NHS England's policy that all cases of refractory or relapsing GCA being considered for TCZ should be discussed regionally, a peer to peer Bristol and Bath TCZ multidisciplinary meeting (MDT) has been held monthly since November 2018, with patients referred from rheumatology and ophthalmology sites across the region. 38 cases have been discussed between November 2018 to September 2021, with 31 being approved for tocilizumab use. Mean age of approved cases was 74 years with three-quarters being female (74.2%).

Of these, 11 had refractory GCA and 20 had relapsing GCA. 77.4% of patients had cranial GCA with 48.4% having large vessel vasculitis. About 45 % (n=14) had visual involvement with about 25.8% having visual loss compared to 24 % with ocular symptoms reported in a Scottish cohort [2]. All patients had been on glucocorticoids, with the average time to referral being 591 days. Among them, 19.4% had hypertension, cataract progression, weight gain or osteoporosis; 16.1% had diabetes, neuropsychiatric symptoms or sleep disturbances attributed to glucocorticoid use.

On comparing patients with visual involvement to those without, it was seen that those with visual involvement had presented with headache, jaw pain and scalp tenderness more commonly than large vessel vasculitis-GCA (73.8 % vs 52.9 %). They were referred to the MDT earlier (478.2 days vs 648.1 days) and were on higher doses of glucocorticoids at time of referral (71.4% vs 47.1% on \geq 40mg).

In December 2021, a follow-up audit revealed 14/31 patients had completed at least 12 months of TCZ; 5 of these had had an extension under COVID-19 exceptional guidance (mean duration of 5.2 months). Of the remaining 17, 3 patients had stopped early (1 death, 1 moved away, 1 due to adverse effects - headache and gastrointestinal side effects), 4 had not started treatment and 10 had not completed 12 months.

Adverse events in the 14 patients at 12 months included: liver abnormalities (2/14; 14.3%), neutropenia (2/14; 14.3%), thrombocytopenia (1/14; 7.1%), soft tissue infections (3/14; 21.4%), urinary tract infections (1/14; 7.1%) and lipid derangement (4/14 28.6%). One patient was admitted with chest pain but with normal investigations. One case of GCA relapse occurred on TCZ (mild headache and raised inflammatory markers which settled on increase in prednisolone). After 12 months, mean prednisolone dose was 3mg (range 0-15mg; median 1).

Our data shows patients on TCZ were able to significantly reduce the dose of glucocorticoids and associated side effects and that clinicians and patients chose to continue TCZ beyond 12 months during the Covid-19 pandemic. There was a low incidence of GCA relapse on TCZ and visual symptoms were not seen as part of any flare. Data from other studies also show similar outcomes [3]. This supports the use of TCZ beyond 12 months; abrupt withdrawal of treatment can precipitate flare up of GCA with significant morbidity and mortality from the disease and glucocorticoids [3]. Biologic therapies for other rheumatic diseases are funded

 under NICE guidance until the patient and clinician decides it is appropriate to stop. Despite this, recent new guidance from NHS England is that the policy of one year only (which had been extended on compassionate grounds during the COVID-19 pandemic), has now returned to a strict one year only treatment period, with no potential to retreat even if serious visual relapses occur.

We support the stance of EULAR in offering TCZ for patients with relapsing/ refractory disease or a high risk of developing complications with glucocorticoids, with the duration of treatment decided on an individual basis [4]. Continuing TCZ beyond 12 months may prevent GCA relapse and associated morbidity, particularly in those with visual involvement, in whom relapsing disease can cause irreversible blindness and have a significant impact on function and health related quality of life [5, 6].

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References

- Richard Conway, Michael S Putman, Sarah L Mackie, Benchmarking tocilizumab use for giant cell arteritis, *Rheumatology Advances in Practice*, Volume 6, Issue 2, 2022, rkac037, https://doi.org/10.1093/rap/rkac037
- Owen Cronin, Hannah Preston, Heba Fahmy, Barbara Kuske, Malinder Singh, Naomi Scott, Sean Kerrigan, Lucy Moran, John Harvie, Helen Harris, Barbara Hauser, Neil D McKay, Tocilizumab for the treatment of giant cell arteritis in Scotland: a report on behalf of the Scottish Society for Rheumatology standards subgroup, *Rheumatology Advances in Practice*, Volume 6, Issue 1, 2022, rkac017, https://doi.org/10.1093/rap/rkac017
- Castañeda S, Prieto-Peña D, Vicente-Rabaneda EF, Triguero-Martínez A, Roy-Vallejo E, Atienza-Mateo B, Blanco R, González-Gay MA.J Clin Med. 2022 Mar 13;11(6):1588. doi: 10.3390/jcm11061588.PMID: 35329914 Free PMC article. Review
- 4. Hellmich B, Agueda A, Monti S, Buttgereit F, De Boysson H, Brouwer E, Cassie R, Cid MC, Dasgupta B, Dejaco C, Hatemi G. 2018 Update of the EULAR recommendations for the management of large vessel vasculitis. Annals of the rheumatic diseases. 2020 Jan 1;79(1):19-30.
- Liddle J, Bartlam R, Mallen CD, et al.What is the impact of giant cell arteritis on patients' lives? A UK qualitative study. BMJ Open 2017;7:e017073. doi: 10.1136/bmjopen-2017-017073
- Ní Mhéalóid Á, Conway R, O'Neill L, Clyne B, Molloy E, Murphy CC. Vision-related and health-related quality of life in patients with giant cell arteritis. European Journal of Ophthalmology. 2021;31(2):727-733. doi:10.1177/1120672120901693





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*From biochemical assays, the clinical relevance of which is uncertain. JAK, Janus kinase; RA, rheumatoid arthritis; TYK, tyrosine kinase.

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is not responding to antimicrobial therapy, until infection is controlled. There is a higher incidence of serious infections in the elderly aged 75 years and older, caution should be used when treating this population. <u>Tuberculosis</u>: Patients should be screened for TB before initiating filgotinib, and filgotinib should not be administered to patients with active TB. <u>Viral reactivation</u>: Cases of herpes virus reactivation (e.g., herpes zoster), were reported in clinical studies (see SmPC). If a patient develops herpes zoster, filgotinib treatment should be temporarily interrupted until the episode resolves. Screening for viral hepatitis and monitoring for reactivation should be performed. <u>Malignancy</u>: Immunomodulatory medicinal products may increase the risk of malignancies. Malignancies were observed in clinical studies (see SmPC). <u>Fertility</u>: In animal studies, decreased fertility, impaired spermatogenesis, and histopathological effects on male reproductive organs were observed (see SmPC). The potential effect of filgotinib on sperm production and male fertility in humans is currently unknown. <u>Haematological abnormalities</u>: Do not start therapy, or temporarily stop, if Absolute Neutrophil Count (ANC) < 1 × 10° cells/L, LAC c.O.5 × 10° cells/L or haemoglobin <8 g/dL. Temporarily stop therapy if these values are observed during routine patient management. <u>Vaccinations</u>: Se of live vaccines during, or immediately prior to, filgotinib treatment is not recommended. <u>Lipids</u>: Treatment with filgotinib was associated with dose dependent increases in lipid parameters, including total cholesterol, and high-density lipoprotein (HDL) levels, while low density lipoprotein (LDL) levels were slightly increased (see SmPC). <u>Cardiovascular risk</u>: Rheumatoid arthritis patients should have risk factors (e.g., hypertension, hyperlipidaemia) managed as part of usual standard of care. <u>Venous thromboembolism</u>; Events of deep cardiovascular disorders. Patients should have risk factors (e.g., hypertension, hyperlipidaemia) managed as part of usual standard of care. <u>Venous thromboembolism</u>: Events of deep venous thrombosis (DVT) and pulmonary embolism (PE) have been reported in patients receiving JAK inhibitors including fligotinib. Caution should be used in patients with risk factors for DVT/PE, such as older age, obesity, a medical history of DVT/PE, or patients undergoing surgery, and prolonged

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Additional monitoring required

Adverse events should be reported. For Great Britain and Northern Ireland, reporting forms

and information can be found at <u>yellowcard.mhra.g</u> or via the Yellow Card app (download from the Appl Store or Google Play Store).

Adverse events should also be reported to Galapagos via email to DrugSafety.UK.Ireland@glpg.com or 00800 7878 1345

References: 1. JYSELECA SPC. Available at: www.medicines.org.uk. Last accessed: June 2022. 2. Angelini J, et al. Biomolecules 2020;10(7):E1002. 3. Banerjee S, et al. Drugs 2017;77:521–546. 4. O'Shea JJ, et al. Nat Rev Rheumatol 2013;9(3):173–182. 5. Traves PG, et al. Ann Rheum Dis 2021;0:1-11. 6. McInnes IB, et al. Arthr Res Ther 2019;21:183. 7. Combe B, et al. Ann Rheum Dis 2021;doi:10.1136/annrheumdis-2020-219214. 8. Genovese MC, et al. JAMA 2019;322 (4):315–325. 9. Westhovens R, et al. Ann Rheum Dis 2021;doi:10.1136/annrheumdis-2020-219213. 10. Combe B, et al. Arthritis Rheumatol 2021;73(suppl 10). https://acrabstract/clinical-outcomes-up-to-oweek-48-of-ongoing-long-term-extension-trial-of-ra-patients-with-inadequate-response-to-mtx-initially-treated-with-filgotinib-or-adalimumab-during-th/. Last accessed: June 2022. 11. Buch MH, et al. Arthritis Rheumatol 2021;73 (suppl 10). https://acrabstracts.org/abstract/clinical-outcomes-up-to-week-48-of-ongoing-filgotinib-ra-phase-3-trial/. Last accessed: June 2022. 12. Winthrop K, et al. Arthritis Rheumatol 2021;73(suppl 10). Available at: https://acrabstracts.org/abstract/integrated-safety-analysis-update-for-filgotinib-in-patients-with-moderately-to-severely-active-rheumatoid-arthritis-receiving-treatment-over-a-median-of-2-2-years/. Last accessed: June 2022.

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