median TAHS, AAHS and THS reduced from 10 to 2.5, 12 to 6 and 21 to 10, respectively (Figure 1).

Figure: HS comparing GCA vs non GCA and baseline Halo Score vs 1 and 3 months follow up

AA, Axillary artery; GCA, Giant cell arteritis; TA, Temporal artery

Conclusion: Along with SPTPS, Halo Score successfully discriminates GCA from non GCA mimics. HS is effective in showing 3-month response and may be a useful marker to monitor GCA disease activity.

REFERENCES:

- [1] Laskou F et al. A probability score to aid the diagnosis of suspected giant cell arteritis. *Clin Exp Rheumatol*. 2019
- [2] Sebastian A et al. Probability-based algorithm using ultrasound and additional tests for suspected GCA in a fast-track clinic. *RMD Open*. 2020
- [3] Sebastian A et al. Halo score (temporal artery, its branches and axillary artery) as a diagnostic, prognostic and disease monitoring tool for Giant Cell Arteritis (GCA). *BMC Rheumatol*. 2020

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POS0338

STERIOD-SPARING EFFECT OF ANAKINRA IN GIANT-CELL ARTERITIS: A CASE SERIES WITH CLINICAL, BIOLOGICAL AND ICONOGRAPHIC LONG-TERM ASSESSMENTS

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Background: The treatment of giant cell arteritis (GCA) relies on corticosteroids but is burdened by a high rate of relapses and adverse effects. Anti-interleukin-6 treatments show a clear benefit with a significant steroid-sparing effect, but late relapses occur after treatment discontinuation. In addition to interleukin-6, interleukin-1 also appears to play a significant role in GCA pathophysiology.

Objectives: We report herein the efficacy of anakinra, an interleukin-1 receptor antagonist, in 6 GCA patients exhibiting corticosteroid dependence or resistance, specifically analyzing the outcome of aortitis in 4 of them, and including the long-term follow-up of 2 previously described patients (1).

Methods: This retrospective study analyzed the cases of all GCA patients treated with anakinra from the French Study Group for Large Vessel Vasculitis. Patients had to satisfy the following two criteria to be enrolled in this retrospective study. First, their diagnosis of GCA should be based on the fulfillment of at least 3 criteria of the American College of Rheumatology (ACR) for GCA or on the satisfaction of 2 of these criteria along with the demonstration of LVI on imaging. Second, patients should have received anakinra because of corticosteroid dependence or resistance.

Corticosteroid dependence was defined as ≥ 2 relapses or the combination of 2 of the following criteria: a daily dose of oral prednisone >20 mg/day (or 0.3 mg/kg) at 6 months; a daily dose of oral prednisone >10 mg/day (or 0.2 mg/kg) at 12 months; and/or a treatment maintained >24 months because of a relapsing disease course. Corticosteroid resistance was defined as persistent increased inflammatory parameters at month 3 despite a steroid dosage over 0.5 mg/kg.

Results: After a median duration of anakinra therapy of 19 [18–32] months, all 6 patients exhibited complete clinical and biological remission. Among the 4 patients with large-vessel involvement, 2 had a disappearance of aortitis under anakinra, and 2 showed a decrease in vascular uptake. After a median follow-up of 56 [48–63] months, corticosteroids were discontinued in 4 patients, and corticosteroid dosage could be decreased to 5 mg/day in 2 patients. One patient relapsed 13 months after anakinra introduction in the context of increasing the daily anakinra injection interval to every 48 hours. Three patients experienced transient injection-site reactions, and 1 patient had pneumonia.

Figure 1. Steroid dosages before and after the introduction of anakinra in 6 patients with giant-cell arteritis and corticosteroid dependence or resistance. The black arrow indicates the time of anakinra introduction.

Conclusion: In this short series, anakinra appears to be an efficient and safe steroid-sparing agent in refractory GCA, with a possible beneficial effect on large-vessel involvement.

REFERENCES:

- [1] Ly K-H, Stirnemann J, Liozon E, Michel M, Fain O, Fauchais A-L. Interleukin-1 blockade in refractory giant cell arteritis. *Joint Bone Spine* 2014;81:76–8.

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POS0339

PREDICTORS OF DEATH IN PATIENTS DIAGNOSED WITH GIANT CELL ARTERITIS IN WESTERN NORWAY 1972-2012

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Background: Giant cell arteritis (GCA) is the most common systemic vasculitis in adults, and the number of incident cases worldwide is projected to increase [1]. Evidence as to whether or not GCA confers a mortality risk is conflicting, and many studies have been limited by inadequate or lacking adjustment for confounders.

Objectives: To investigate possible predictors of death in a large and well characterized Norwegian cohort of GCA-patients.

Methods: This is a hospital-based retrospective cohort study including patients diagnosed with GCA during 1972-2012. Patients were identified through computerized hospital records using the International Classification of Diseases coding system. Clinical information was extracted from patients' medical journals. Further details about the inclusion process have been published previously [2]. Information on time of death was obtained from the Norwegian Cause of Death Registry. We investigated predicting factors using Cox regression. Selected variables were first analyzed in univariate and block regression models (block 1:

clinical features including histology, block 2: laboratory and treatment factors, block 3: demographic and traditional risk factors). Variables included in the final multivariate model were selected on the following basis: P-value <0.1 in univariate or block regression or otherwise deemed clinically significant.

Results: 881 patients were included of which 626 (71.1%) were females. Mean age was 73 years (SD 9). 490 patients (55.6%) died during the study period (1 January 1972 – 31 December 2012). Characteristics and mortality for the GCA-cohort compared to matched controls have been published previously [3]. Within the GCA-cohort we found that presenting with visual disturbance (any) or scalp necrosis was associated with increased risk of death in univariate analysis (Figure 1). However, in multivariate analysis the traditional risk factors (age, smoking, hypertension and previous cardiovascular disease) were more strongly associated with risk of death. Among laboratory parameters only Hemoglobin (Hb) levels were significantly associated with risk of death with increasing Hb-levels indicating decreased risk. Neither temporal artery biopsy result nor initial or maximal (before first tapering) Prednisolone dose were found to be associated with risk of death. Results from univariate and the final multivariate models are presented in Figure 1.

Figure 1.

Conclusion: In our large cohort of GCA-patients the risk of death was found to be predominantly predicted by age (HR 2.81) and traditional risk factors (smoking (HR 1.61), hypertension (HR 1.48) and previous cardiovascular disease (HR 1.26)). Visual disturbance (HR 1.40), visual loss in particular (HR 2.37), and scalp necrosis (HR 3.42) were found to be the clinical features most associated with risk of death. However, we note that our material lacked information about extra-cranial (large vessel) vasculitis, which may also carry increased risk of death.

REFERENCES:

- [1] De Smit E, Palmer AJ, Hewitt AW. Projected worldwide disease burden from giant cell arteritis by 2050. *J Rheumatol* 2015;42:119-25.
- [2] Brekke LK, Diamantopoulos AP, Fevang BTS, Assmus J, Esperø E, Gjesdal CG. Incidence of giant cell arteritis in Western Norway 1972-2012: a retrospective cohort study. *Arthritis Res Ther*. 2017;19(1):278.
- [3] Brekke LK, Fevang BTS, Diamantopoulos AP, Assmus J, Esperø E, Gjesdal CG. Survival and death causes of patients with giant cell arteritis in Western Norway 1972-2012: a retrospective cohort study. *Arthritis Res Ther*. 2019;21(1):154.

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POS0340

VASCULAR IMAGING IN PATIENTS WITH REFRACTORY TAKAYASU ARTERITIS TREATED WITH TOCILIZUMAB: ANALYSIS FROM A RANDOMIZED CONTROLLED TRIAL

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Background: In the TAKT study, a randomized controlled trial of tocilizumab (TCZ) in patients with refractory Takayasu arteritis (TAK) in Japan, the primary end point of time to relapse after induction of remission with glucocorticoid (GC) treatment showed a trend favoring TCZ over placebo (hazard ratio 0.41 [95.41% confidence interval, 0.15-1.10; $p=0.0596$]),¹ but the double-blind period was too short for imaging evaluation.

Objectives: To independently evaluate vascular imaging in a post hoc analysis of radiographs from the TAKT study.

Methods: Computed tomography images from patients in the TAKT study were evaluated by three independent radiologists who were not involved in the original trial. Patients who received TCZ and had computed tomography images available ($n=28$) were included. Assessments were made in 22 arteries for the change from baseline in wall thickness (primary end point), dilatation/aneurysm, stenosis/occlusion, or wall enhancement for at least 96 weeks after the start of tocilizumab treatment. Patient-level assessments were also conducted.

Results: Among 28 patients who received at least one dose of TCZ and for whom images were available, 86.7% of 22 arteries had improved/stable (no progression) wall thickness at week 96. The proportions of patients with no progressed, partially progressed, or newly progressed lesions were 57.1%, 10.7%, and 28.6% for wall thickness, and the proportions without progressed lesions were 92.9% for dilatation/aneurysm and 85.7% for stenosis/occlusion (Figure 1). Patients with newly progressed lesions, reflecting more refractory disease, were receiving glucocorticoid doses that could not be reduced below 0.1 mg/kg/day at week 96.

Conclusion: Approximately 60% of patients with TAK treated with tocilizumab did not experience progression in wall thickness. Few patients experienced progressive dilatation/aneurysm or stenosis/occlusion. Wall thickness progression likely resulted from refractory TAK. Patients who experience this should be monitored regularly by imaging, and additional glucocorticoid or immunosuppressive treatment should be considered to avoid vascular progression.

REFERENCES:

- [1] Nakaoka Y et al. *Ann Rheum Dis*. 2018;77:348-354.

Figure. Evaluation of arteries per patient (n=28)

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POS0341

SVCAM-1 EXPRESSION IN TAKAYASU ARTERITIS TREATED WITH TOCILIZUMAB: A PROSPECTIVE PILOT STUDY

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Background: Takayasu arteritis (TA) is a rare disease, its diagnosis is often delayed by years. Biomarkers might be helpful for earlier diagnosis and for monitoring treatment. We have described serum soluble vascular cell adhesion molecule-1 (sVCAM-1) as a marker of inflammation in a variety of rheumatic diseases, including vasculitis (1). Tocilizumab (TCZ) is a monoclonal antibody against the interleukin-6 receptor with established benefits in TA (2). It may spare oral glucocorticoids (GC) and Disease-Modifying Agents (DMARDs). So far, sVCAM-1 has never been examined as diagnostic marker or to monitor disease activity in TA patients treated with TCZ.