performed using a 20g needle (Bard). A Logiq S8 GE ultrasound device with a 6-15 MHz matrix linear transducer was used. We performed a local anesthesia at the entry point and a 2mm skin incision. The sampling length was set on 20mm. The CNB was performed at the most suspicious focal sonographic lesion. 2-3 needle passes were carried out through the same skin access.

Results: Representative histopathological samples were obtained from all patients. In patient 1 (62y) with known SjS and parotid swelling, mucosa-associated lymphoid tissue (MALT) lymphoma was diagnosed (previous lip biopsy with no proof of malignancy). Also in patient 2 (35y) with known SjS and a 20-years history of parotid swelling, MALT lymphoma was diagnosed. In this patient a lip biopsy was performed in the previous year supporting the diagnosis of SjS, but without proof of malignancy. In patient 3 (64y) with SSs, anti-Ro/SSA positivity and dry eyes and mouth, the biopsy established the diagnosis of SjS. In patient 4 (59y) with SSs, negative anti-Ro/SSA antibodies and dry eyes/mouths, SjS could be excluded. In the corresponding ultrasound, all patients showed hypoechoic lesions and inhomogeneous parenchyma of major salivary glands reflecting OMERACT grade II-III SjS ultrasound score (4). No safety signals were observed. Patients with prior lip biopsies perceived ultrasound-guided CNB as preferable.

Conclusion: This pilot study suggests that ultrasound-guided CNB in SjS is a safe procedure with an excellent diagnostic yield allowing the diagnosis of lymphoma of the salivary glands, which is superior to lip biopsy. Given these encouraging results, we will now increase patient numbers for further validation.

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Vasculitis – large vessel vasculitis

POS0796

SURVIVAL OF GIANT CELL ARTERITIS PATIENTS IN SLOVENIA

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Background: Recent meta-analysis reported no difference in the long-term mortality of GCA patients at a population level, but an increased mortality in hospital-based cohorts¹.

Objectives: The aim of our study was to evaluate for the first time the survival of GCA patients in Slovenia.

Methods: We included patients with clinical diagnosis of GCA supported by histology or imaging diagnosed between September 2011 and December 2019 and prospectively followed at our secondary/tertiary rheumatology center. To evaluate mortality the censor date of 24. June 2020 was used. Kaplan–Meier analysis was used to analyze mortality. Standardized mortality ratio (SMR) was calculated using data of age matched Slovenian population as the reference.

Results: Between September 2011 and December 2019 we identified 309 new GCA patients (203 (65.7%) females, median (IQR) age 74.9 (67.7–80.1.7), range 53.7 to 97.5 years). Patients were followed (until death or censor date) of a median (IQR) 33.3 (17.5–60.8) months. Until the censor date 51 (16.5%) GCA patients died (24 females, 27 males). We found no significant sex related differences in the net survival estimates during the first five years of follow up (p=0.68).

Figure 1 shows the survival curve of GCA patients and general population as a comparator according to Kaplan–Meier analysis. In the first year following GCA diagnosis the mortality rate was 1.9 times higher compared to general Slovenian population (95% CI 1.19 - 2.88, p=0.03). For patients who survived the first year after diagnosis the mortality was comparable to the general population (Table 1).

Figure 1. Survival curve according to Kaplan–Meier analysis in GCA

Table 1. Standardized mortality ratios of patients who survived the first year after diagnosing GCA (ie. were followed at least one year) compared to the general population

Years of FU	Observed deaths	Expected deaths	SMR (95%CI)	P-value
2	11	9.7	1.14 (0.57-2.03)	0.753
3	14	16.5	0.85 (0.46-1.43)	0.626
4	21	21.6	0.97 (0.60-1.49)	0.987
5	25	25.0	1.00 (0.65-1.48)	0.921
6	26	27.6	0.94 (0.61-1.38)	0.831

Legend: FU follow up; SMR Standardized mortality ratios; CI confidence interval

Conclusion: GCA patients had an increased risk of death in the first year from the GCA diagnosis.

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POS0797

LARGE VESSEL-GCA: A DIAGNOSTIC CHALLENGE

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Background: GCA is the most frequent systemic vasculitis in patients older than 50 years involving medium-sized and large arteries. Inflammation of the extracranial branches of the carotid artery gives rise to the classic symptoms of GCA. However, in almost two-thirds of patients GCA involves also the aorta and its major branches (1,2). Large vessel involvement leads to a different atypical clinical picture which can be challenging to diagnose (3,4). More information on clinical presentation and vessel involvement in large-vessel GCA are needed to better diagnose it.

Objectives: To analyze clinical presentation of large-vessel GCA compared to classical cranial disease.

Methods: 100 consecutive patients with a clinical diagnosis of GCA were enrolled in this retrospective study. All patients were older than 50 years of age, met the ACR criteria for GCA or had a positive biopsy of the temporal artery or evidence of large vessel vasculitis at FDG-PET/CT scan.

Results: Based on vascular involvement, patients were classified into three groups: 61 patients with only cranial arteritis (C-GCA), 16 patients with only extracranial large vessel vasculitis (LV-GCA) and 23 patients with both cranial and large vessel involvement (LV-C-GCA).

Compared to C-GCA, patients with large vessel involvement (LV-GCA and LV-C-GCA) were younger and more frequently women, and the difference was further significant for patients with isolated LV-GCA. Patients with isolated LV-GCA had also the longer duration of symptoms at GCA diagnosis [LV-GCA 20(16-82) vs LV-C-GCA 12(4-16) vs C-GCA 4(3-12) weeks; $p < 0.001$]. Systemic symptoms, as fever and fatigue, were associated with large vessel involvement, both in LV-GCA and LV-C-GCA groups. Polymyalgia rheumatica was equally reported in all three cohorts of patients and no significant differences were found in inflammatory markers levels according to vessel involvement.

In patients with large vessels involvement (LV-GCA and LV-C-GCA) thoracic aorta, subclavian arteries and abdominal aorta were the most frequently involved arteries.

Conclusion: GCA is not a single entity but includes several patterns of disease. Female gender, younger age and systemic symptoms are associated with large vessel involvement, regardless the presence or absence of cranial symptoms. The different clinical manifestations of large vessel GCA lead to a longer time to diagnosis if compared to C-GCA. For these reasons, in patients with the aforementioned characteristics, a large vessel involvement should be considered in order to reduce the time to diagnosis.

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	GCA (n: 100)	C-GCA (n: 61)	LV-C-GCA (n: 23)	LV-GCA (n: 16)	p
Age: median (IQR)	76 (67-79)	75 (71-80)	74 (69-77)	63 (59-72)	0.001
Female/ Male	68 (68%) / 32 (32%)	38 (62%) / 23 (38%)	17 (74%) / 6 (26%)	13 (81%) / 3 (19%)	0.276
Time between symptom onset and diagnosis (weeks)	8 (4-20)	4 (3-12)	12 (4-16)	20 (16-82)	<0.001
Cranial symptoms (overall)	84 (84%)	61 (100%)	23 (100%)	0 (0%)	<0.001
New temporal headache	77 (77%)	58 (95%)	19 (83%)	0 (0%)	<0.001
Visual symptoms	39 (39%)	34 (56%)	5 (22%)	0 (0%)	<0.001
Jaw or tongue claudication	35 (35%)	27 (44%)	8 (35%)	0 (0%)	0.004
Fever	48 (48%)	23 (38%)	14 (61%)	11 (69%)	0.032
Fatigue	75 (75%)	40 (66%)	21 (91%)	14 (88%)	0.023
Weight loss	52 (52%)	28 (46%)	13 (57%)	11 (69%)	0.235
Polymyalgia rheumatica	43 (43%)	27 (44%)	13 (57%)	3 (19%)	0.061
Arm or leg claudication	5 (5%)	0 (0%)	4 (17%)	1 (6%)	0.005
CRP (C-reactive protein)	83 (45-127)	77 (39-115)	89 (50-134)	95 (20-124)	0.461
ESR (erythrocyte sedimentation rate)	72 (47-96)	70 (46-88)	75 (28-105)	66 (44-91)	0.711
Cranial arteries	84 (84%)	61 (100%)	23 (100%)	0 (0%)	<0.001
Carotid arteries	19 (19%)	0 (0%)	12 (52%)	7 (44%)	<0.001
Subclavian and upper limb arteries	21 (21%)	0 (0%)	10 (43%)	11 (69%)	<0.001
Thoracic aorta	29 (29%)	0 (0%)	15 (65%)	14 (88%)	<0.001
Abdominal aorta	21 (21%)	0 (0%)	10 (43%)	11 (69%)	<0.001
Iliac and inferior limb arteries	10 (10%)	0 (0%)	6 (26%)	4 (25%)	<0.001

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POS0798

GIANT CELL ARTERITIS TREATMENT PATTERNS AND RATES OF SERIOUS INFECTIONS

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Background: Giant cell arteritis (GCA) afflicts older adults, who may have age- and comorbidity-related risks for infection, and is treated with glucocorticoids and other immunosuppressants that might increase the risk of serious infections.

Objectives: To examine GCA treatment patterns and rates of serious infections in two real-world cohorts in the U.S.

Methods: Using claims data from two U.S. health insurance databases, Medicare (public, 2007-2017) and MarketScan (commercial, 2015-2019), we selected a cohort of patients with GCA based on a validated claims-based algorithm requiring ≥ 2 diagnosis codes for GCA plus dispensing of high-dose oral glucocorticoid (PPV 84.8%) [1]. The Medicare cohort included Medicare enrollees aged ≥ 65 years with GCA who were treated at a large Massachusetts-based healthcare system; the MarketScan cohort included a nationwide sample of GCA patients aged ≥ 50 years. GCA index date was the date of 1st glucocorticoid prescription. We assessed baseline comorbidities in the year prior to index date. Immunosuppressants and prophylactic antibiotics dispensed within 30 days

of index date were recorded. Influenza vaccine administration in the year after index date was identified. We calculated the incidence rate of serious infections, defined as infections requiring hospitalization, after index date through end of cohort follow-up (12/31/17 in Medicare; 12/31/2019 in MarketScan), disenrollment, or death.

Results: The Medicare cohort included 734 patients, 28% male, mean age 77.1 (SD 7.4); the MarketScan cohort included 1022 patients, 30% male, mean age 68.4 (SD 10.9). The most common comorbidity was hypertension (80% Medicare; 72% MarketScan) followed by hyperlipidemia, cancer, coronary artery disease, and diabetes (Table 1). High-dose prednisone was the most common initial treatment; a small percentage received tocilizumab within 30 days of index date. Prophylaxis against pneumocystis pneumonia was similar in Medicare (13%) and MarketScan cohorts (10%). Influenza vaccination was more common in the Medicare (56%) than MarketScan (22%) cohort in the year after GCA index date. During the mean follow-up time of 2.6 (SD 2.5) years in Medicare and 1.5 (SD 0.9) years in MarketScan, 27.9% of the Medicare and 7.2% of MarketScan patients developed serious infections: incidence rate per 100 person-years = 10.7 (95% CI 9.3, 12.2) in Medicare and 6.3 (95% CI 5.0, 7.9) in MarketScan.

Conclusion: In these 2 real-world GCA cohorts in the US, over 25% of Medicare and 7% of MarketScan patients developed serious infection during follow-up. The incidence rate of serious infection was similar to ANCA-associated vasculitis [2]. Use of prophylactic antibiotics and influenza vaccination was suboptimal among GCA patients.

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Table 1. Comorbidities, medication use, and infection rates in GCA cohorts

	Medicare cohort (n=734)	MarketScan cohort (n=1022)
Baseline comorbidities		
Hypertension	80%	72%
Hyperlipidemia	71%	61%
Cancer	38%	24%
Coronary artery disease	34%	25%
Diabetes	34%	31%
No. rheumatology visits, mean (SD)	1.4 (2.2)	0.8 (1.7)
Medications within 30 days of index date		
Prednisone maximum dose ≥ 60 mg daily	87%	91%
Tocilizumab IV or SC	<2%	5%
Methotrexate	3%	4%
Bactrim, atovaquone, or dapsone	13%	10%
Vaccines in the year after index date		
Influenza vaccine	56%	22%
Serious infection incidence rate (95% CI) per 100 person-years	10.7 (9.3, 12.2)	6.3 (5.0, 7.9)

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POS0799

THE EFFICACY AND SAFETY OF TOCILIZUMAB IN PATIENTS WITH GIANT CELL ARTERITIS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Tocilizumab (TCZ) has been proven to be safe and effective for the treatment of giant cell arteritis (GCA) in 2 randomized controlled trials; however, data from additional types of studies provide valuable information related to the treatment of GCA with TCZ.

Objectives: To review and analyze efficacy and safety data for TCZ in GCA based on peer-reviewed publications to date.

Methods: A systematic literature review was conducted according to the PRISMA guidelines. Publications were retrieved from the MEDLINE, Embase, Cochrane, Scopus and Web of Science databases. Publications of clinical trials and retrospective or prospective observational studies (April 11, 2005-October 8, 2019) including patients with GCA (classified based on ACR criteria and/or positive biopsy vs imaging) treated with TCZ and reporting a measure of efficacy were eligible for inclusion. Extracted data included year of publication, year(s) when the study was conducted, number of patients with GCA, method of GCA diagnosis, age and sex, TCZ treatment details (dose, route of administration, frequency, duration), clinical outcome (remission, relapse), serious adverse events