

## Supplementary Material

### Rapid glucocorticoid tapering regimen in giant cell arteritis patients – a single centre cohort study

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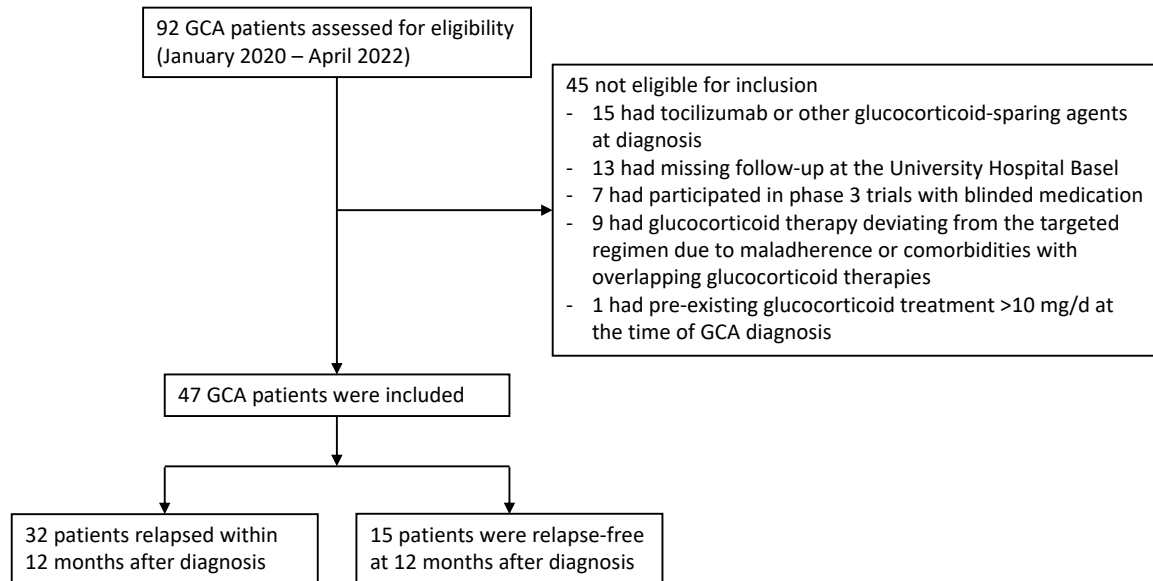
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**Supplementary Figure S1: Flow chart of the study population.**

The screening cohort comprised 92 patients with newly diagnosed GCA between January 2020 and April 2022. Of these, 47 patients met the inclusion criteria. GCA = giant cell arteritis.

**Supplementary Table S1:** Baseline characteristics of GCA patients receiving tocilizumab at diagnosis compared to the patients treated with a glucocorticoid monotherapy.

	<b>Patients with TCZ (n = 15)</b>	<b>Patients with GC monotherapy (n = 47)</b>	<b>p-value</b>
Female, n (%)	12 (80)	30 (64)	0.346
Age, years, median (IQR)	70 (64 – 76)	72 (66 – 76)	0.554
<b>Cardiovascular risk factors</b>			
Arterial hypertension, n (%)	9 (60)	25 (53)	0.870
Diabetes mellitus, n (%)	3 (20)	5 (11)	0.388
Dyslipidaemia, n (%)	3 (20)	17 (36)	0.346
Smoking, n (%)	7 (50)	24 (51)	1
History of CHD or MI, n (%)	2 (13)	5 (11)	1
History of CVD, n (%)	3 (20)	5 (11)	0.369
History of PAD, n (%)	1 (7)	1 (2)	0.428
History of aneurysm, n (%)	0 (0)	1 (2)	1
<b>Disease characteristics</b>			
Fever, n (%)	7 (47)	6 (13)	<b>0.009</b>
Weight loss, n (%)	6 (40)	21 (45)	0.984
Stroke/TIA, n (%)	2 (13)	2 (4)	0.244
Visual impairment, n (%)	7 (47)	12 (26)	0.197
Permanent vision loss, n (%)	3 (20)	3 (6)	0.146
Jaw claudication, n (%)	6 (40)	15 (32)	0.793
New onset headache, n (%)	8 (53)	35 (74)	0.197
Scalp tenderness, n (%)	7 (47)	16 (34)	0.566
Pathological temporal artery, n (%)	6 (40)	17 (36)	1
Polymyalgia, n (%)	8 (53)	18 (38)	0.467
ESR, mm/h, median (IQR)	68 (49 – 85)	64 (35 – 90)	0.925
C-reactive protein, mg/l, median (IQR)	39 (24 – 108)	76 (42 – 110)	0.239
Haemoglobin, g/l, median (IQR)	127 (116 – 132)	120 (106 – 133)	0.349
Abbreviations: GCA = giant cell arteritis, n = number, TCZ = tocilizumab GC = glucocorticoid, CHD = coronary heart disease, MI = myocardial infarction, CVD = cerebrovascular disease, PAD = peripheral artery disease, ESR = erythrocyte sedimentation rate			

**Supplementary Table S2:** Cox proportional hazards models showing the association between baseline characteristics and relapses in patients with GCA.

Baseline characteristics	Univariate HR (95% CI)	p-value
Age	1.00 (0.96 – 1.04)	0.9
Sex (female)	1.08 (0.52 – 2.25)	0.8
Cranial manifestation	0.68 (0.34 – 1.36)	0.3
Large vessel vasculitis	1.27 (0.59 – 2.76)	0.5
Fever	0.69 (0.24 – 1.98)	0.5
Weight loss	0.67 (0.33 – 1.36)	0.3
Stroke/TIA	0.45 (0.06 – 3.33)	0.4
Visual impairment	0.77 (0.33 – 1.79)	0.5
Permanent vision loss	3.16 (0.91 – 11.01)	0.1
Jaw claudication	0.75 (0.35 – 1.63)	0.5
New onset headache	1.07 (0.48 – 2.39)	0.9
Scalp tenderness	1.19 (0.58 – 2.44)	0.6
Pathological temporal artery	0.69 (0.33 – 1.47)	0.3
Polymyalgia	1.11 (0.54 – 2.29)	0.8
ESR	1.01 (0.99 – 1.02)	0.1
C-reactive protein	1.00 (0.99 – 1.01)	0.6
Leucocytes	1.02 (0.94 – 1.11)	0.6
Thrombocytes	1.00 (0.99 – 1.00)	0.7
Haemoglobin	0.99 (0.96 – 1.01)	0.2
Arterial hypertension	0.62 (0.31 – 1.25)	0.2
Diabetes mellitus	1.98 (0.69 – 5.70)	0.2
Dyslipidaemia	0.57 (0.26 – 1.24)	0.1
Smoking	0.79 (0.39 – 1.61)	0.5
Abbreviations: GCA = giant cell arteritis, HR = hazard ratio, CI = confidence interval, TIA = transient ischemic attack, ESR = erythrocyte sedimentation rate		

**Supplementary Table S3** Detailed description of major GCA relapses.

Study-ID	Days until relapse	GC dose at relapse [mg]	CSD at relapse [mg]	Symptoms	GC dose/ Therapy after relapse [mg]
<b>Transient ischemia</b>					
RS_007	107	5	2328	Jaw claudication	20 + TCZ
RS_046	145	5	2818	Jaw claudication	40 + TCZ
RS_055	54	15	1925	Visual impairment (Blurred vision)	60 + TCZ
<b>Irreversible ischemia</b>					
RS_022	79	10	2240	PVL (AION)	625 (i.v.) 60 (p.o.)
Abbreviations: GCA = giant cell arteritis, CSD = cumulative steroid dose, GC = glucocorticoid, TCZ = tocilizumab, PVL = permanent vision loss, AION = anterior ischemic optic neuropathy, i.v. = intravenous, p.o. = peroral					

**Supplementary Table S4:** Baseline characteristics of minor and major relapsing GCA patients.

	<b>All relapses (n = 32)</b>	<b>Minor relapses (n = 28)</b>	<b>Major relapses (n = 4)</b>	<b>p-value</b>
Female, n (%)	21 (66)	18 (64)	3 (75)	1
Age, years, median (IQR)	72 (66 – 76)	72 (67 – 80)	68 (66 – 71)	0.408
Vascular involvement				
- temporal artery, n (%)	- 18 (56)	- 16 (57)	- 2 (50)	1
- large vessels, n (%)	- 23 (72)	- 20 (63)	- 3 (75)	1
<b>Disease characteristics</b>				
Fever, n (%)	4 (13)	4 (14)	0 (0)	1
Weight loss, n (%)	13 (41)	11 (34)	2 (50)	1
Stroke/TIA, n (%)	1 (3)	1 (4)	0 (0)	1
Visual impairment, n (%)	7 (22)	5 (16)	2 (50)	0.201
Permanent vision loss, n (%)	3 (9)	2 (6)	1 (25)	0.339
Jaw claudication, n (%)	9 (28)	8 (25)	1 (25)	1
New onset headache, n (%)	24 (75)	20 (63)	4 (100)	0.549
Scalp tenderness, n (%)	12 (38)	10 (31)	2 (50)	0.619
Pathological temporal artery, n (%)	10 (31)	9 (28)	1 (25)	1
Polymyalgia, n (%)	12 (38)	11 (34)	1 (25)	1
ESR, mm/h, median (IQR)	70 (46 – 95)	69 (46 – 92)	94 (79 – 95)	0.475
C-reactive protein, mg/l, median (IQR)	90 (48 – 145)	90 (48 – 162)	92 (65 – 112)	0.978
Abbreviations: GCA = giant cell arteritis, n = number, TIA = transient ischemic attack, ESR = erythrocyte sedimentation rate.				

**Supplementary Table S5:** Therapeutic details of minor relapsing patients with and without tocilizumab at relapse.

	<b>With TCZ (n = 15)</b>	<b>Without TCZ (n = 13)</b>	<b>p-value</b>
Days until relapse, median (IQR)	84 (50 – 114)	102 (90 – 196)	0.205
GC dose at relapse, mg/d, median (IQR)	13 (6 – 20)	7 (3 – 15)	0.319
CSD at relapse, mg, median (IQR) *	2160 (1946 – 2428)	3096 (2265 – 3500)	0.018
CSD at 12 months, mg, median (IQR) *	4133 (3634 – 4796)	5020 (4547 – 5351) N=10	0.041
Abbreviations: GCA = giant cell arteritis, GC = glucocorticoid, CSD = cumulative steroid dose, TCZ = tocilizumab. * Without intravenous glucocorticoid pulse therapy.			