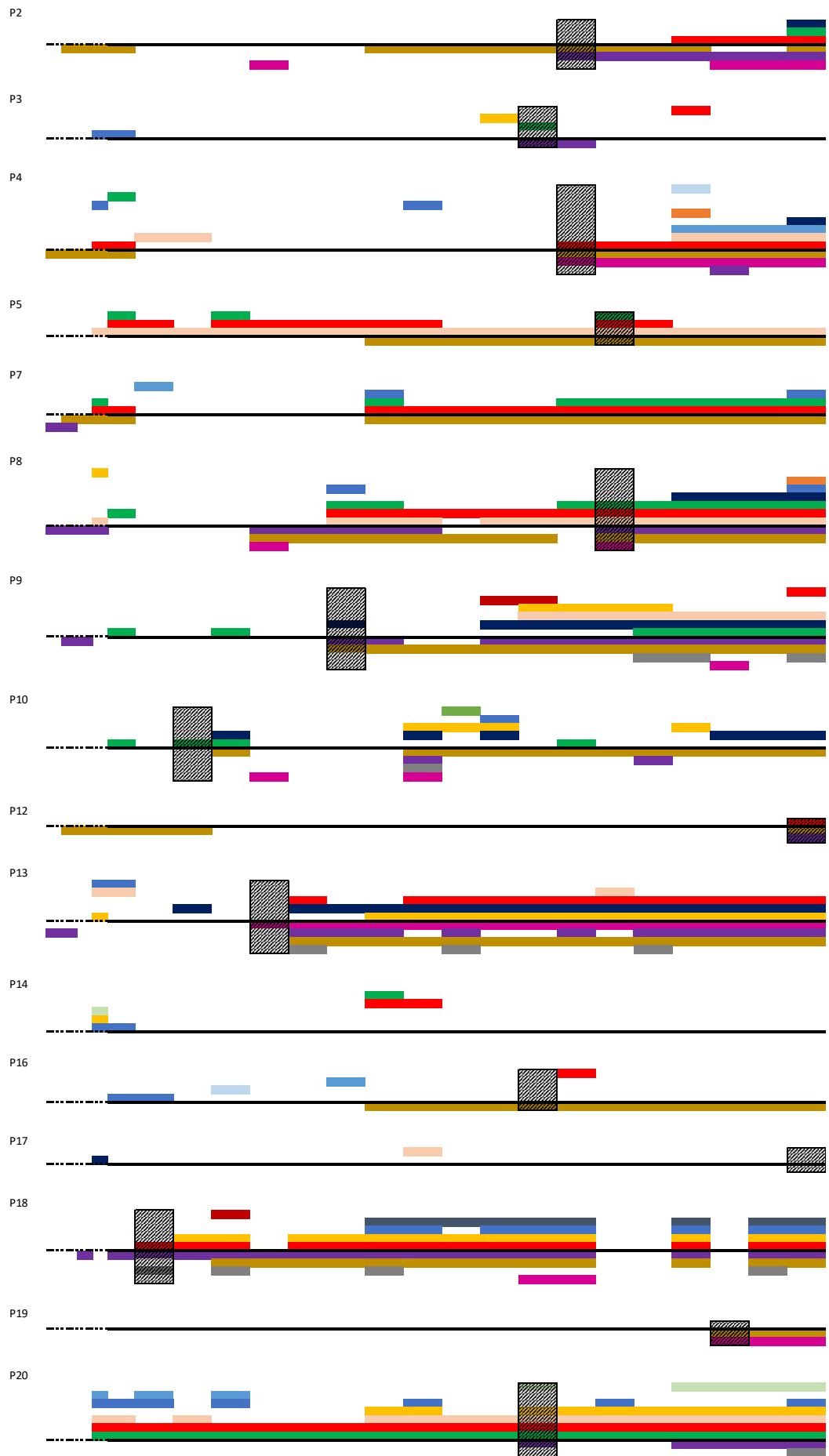
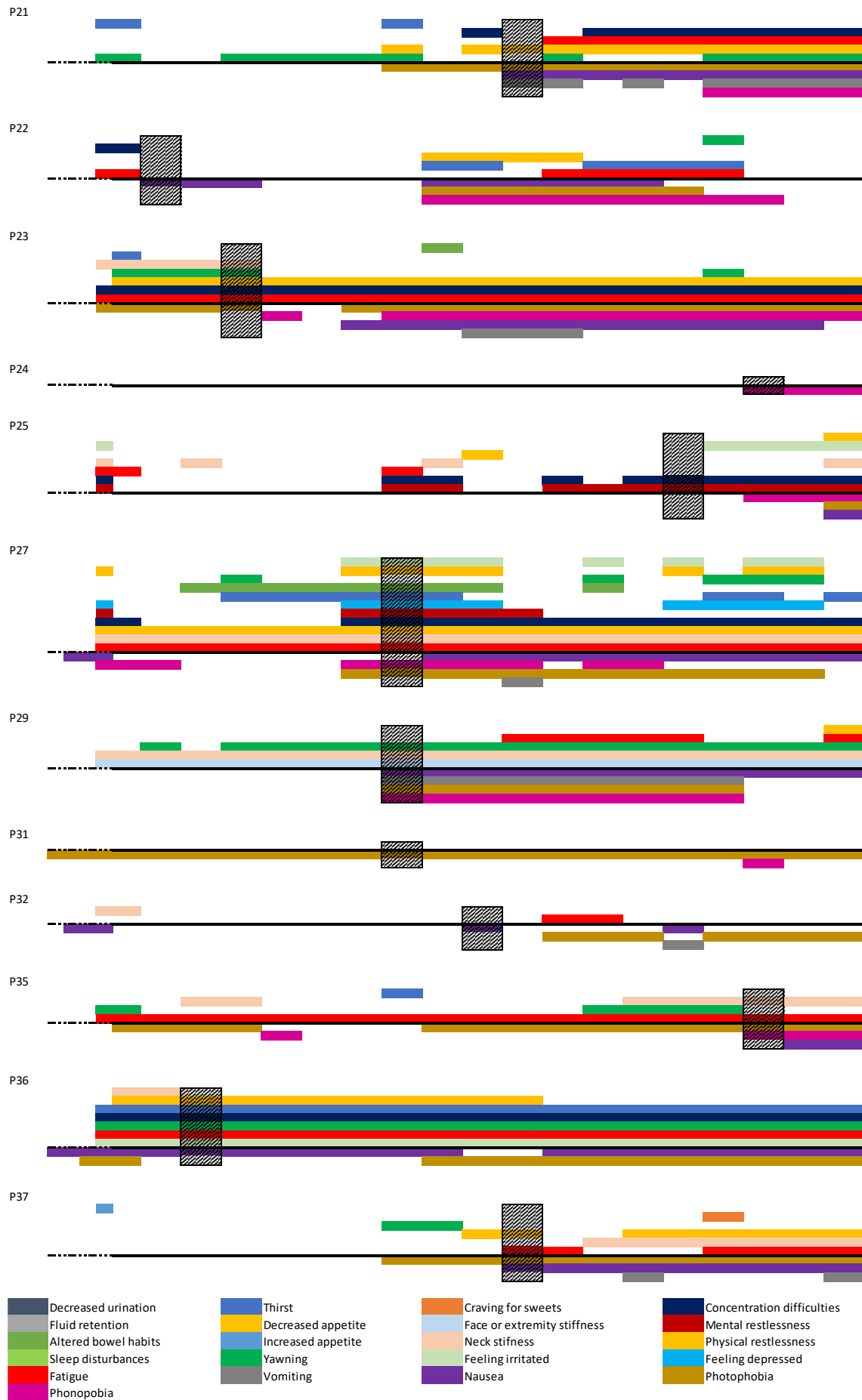
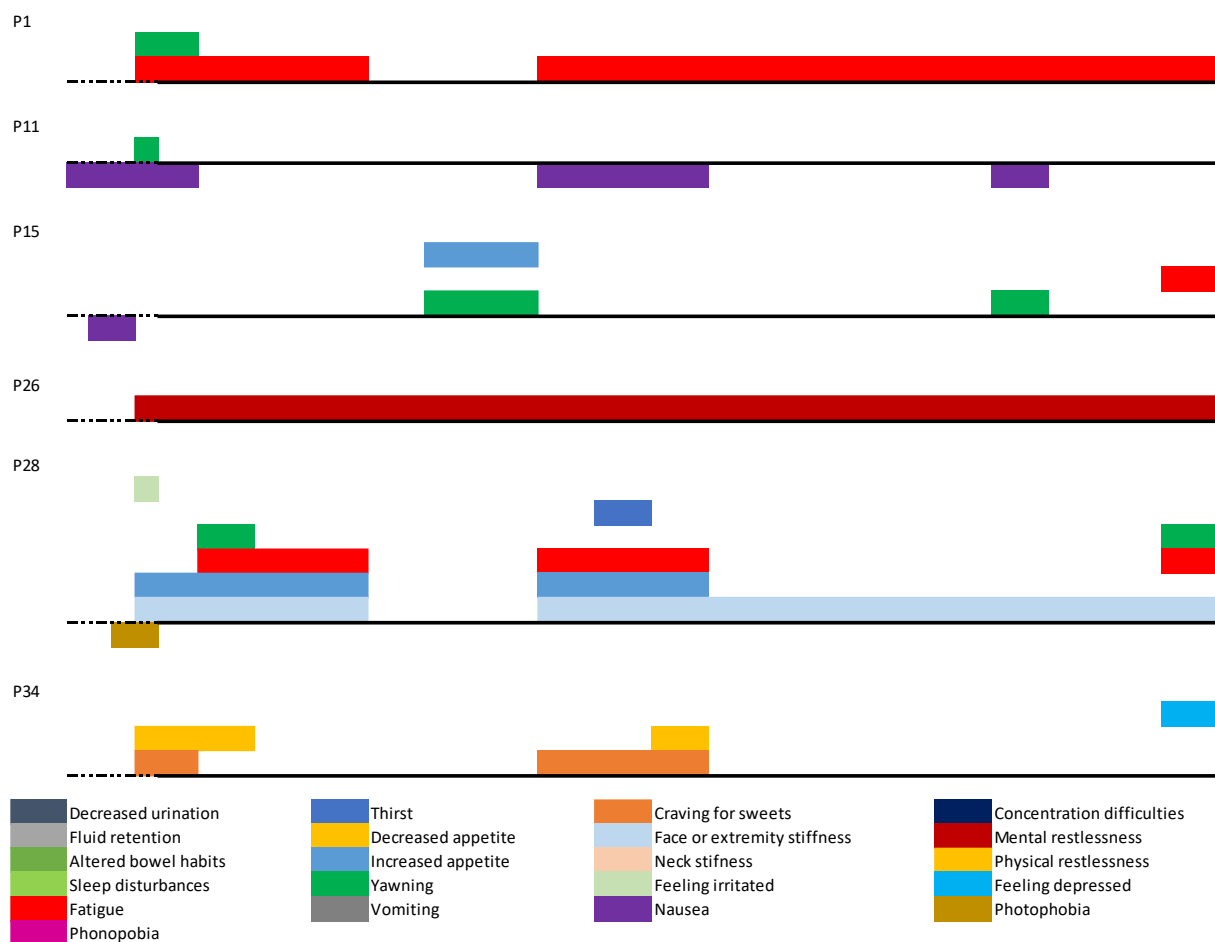


E-Figure 1: Reported nonheadache symptoms over time (0-5h) by GTN responders (red) and GTN non-responders (blue). The reported median onset for migraine-like attacks (181 minutes; making this after the questionnaire taken at 195 minutes post GTN infusion) is depicted by a dashed line, illustrating the preictal and ictal period.

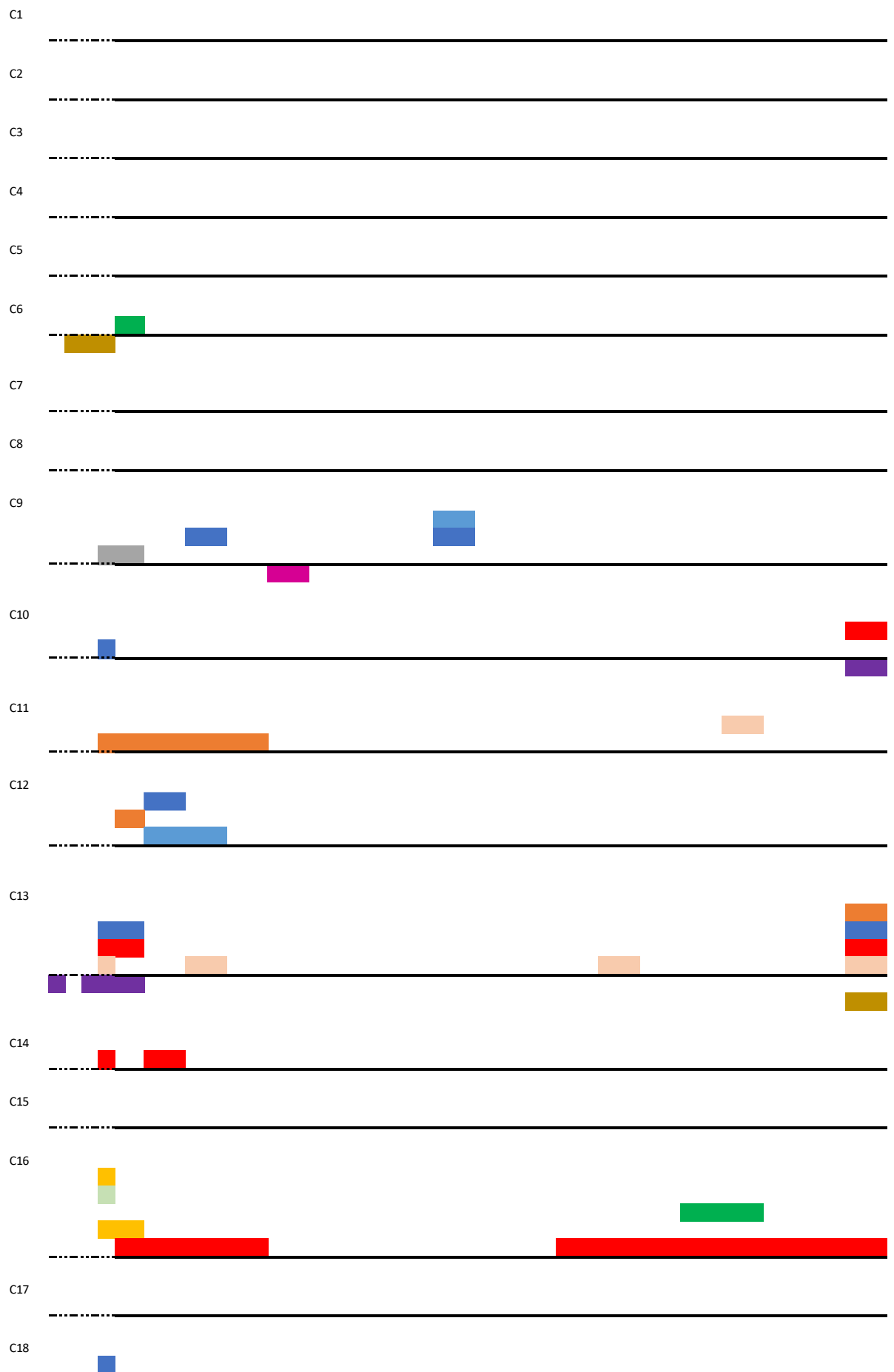


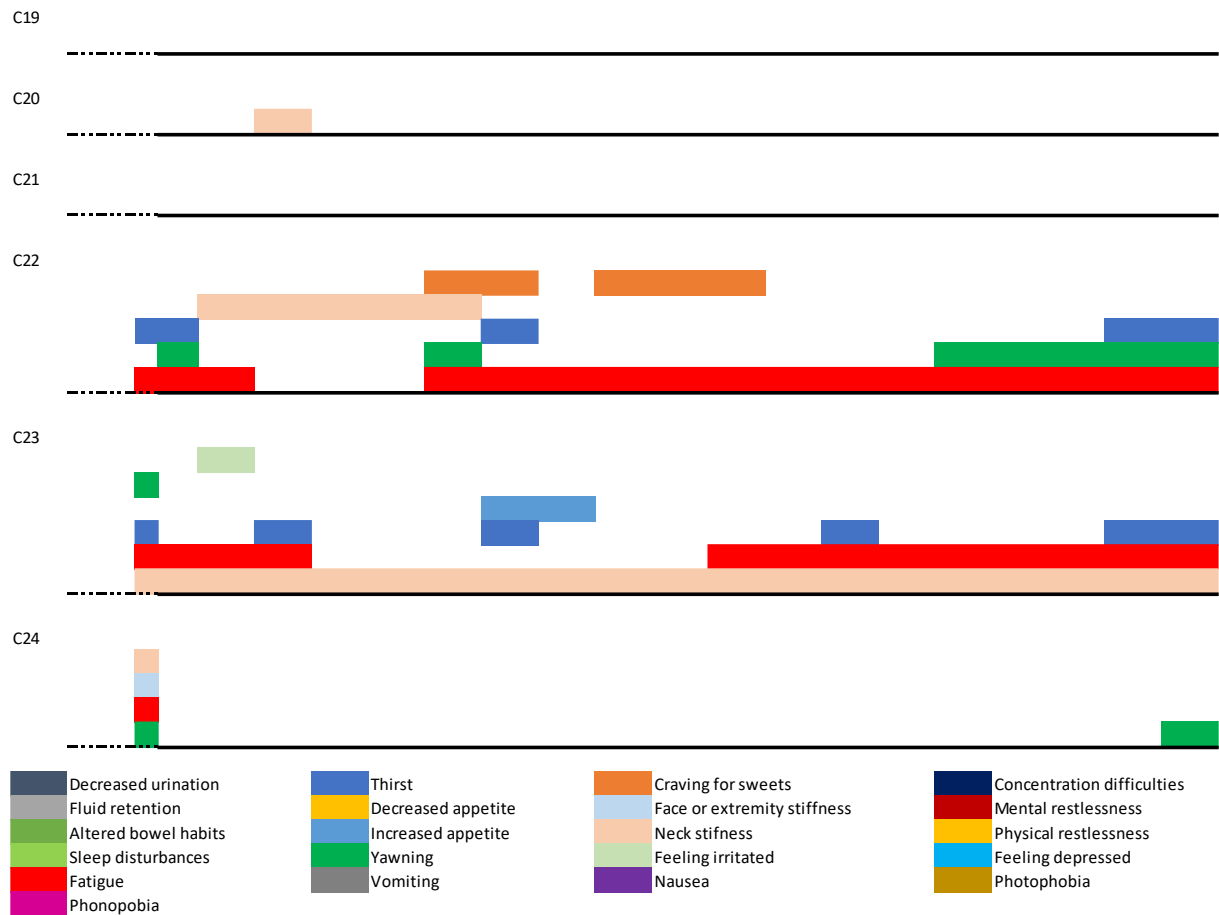


E-Figure 2: Reported nonheadache symptoms over time (0-5h) by individual GTN responders, each participant is represented by single line (interrupted line: during GTN infusion, continuous line: post-GTN infusion) with each nonheadache symptom represented by a different color (see legend). Nonheadache symptoms part of the associated criteria for migraine are represented below the line, other symptoms above. When a particular nonheadache symptom was reported directly prior and directly after MR scanning (no questionnaire) the symptom considered to be present during scanning in this representation. The onset for migraine-like headache is marked by a diagonally marked interval.



E-Figure 3: Reported nonheadache symptoms over time (0-5h) by individual GTN non-responders, each participant is represented by single line (interrupted line: during GTN infusion, continuous line: post-GTN infusion) with each nonheadache symptom represented by a different color (see legend). Nonheadache symptoms part of the associated criteria for migraine are represented below the line, other symptoms above. When a particular nonheadache symptom was reported directly prior and directly after MR scanning (no questionnaire) the symptom considered to be present during scanning in this representation.





E-Figure 4: Reported nonheadache symptoms over time (0-5h) by individual healthy controls, each participant is represented by single line (interrupted line: during GTN infusion, continuous line: post-GTN infusion) with each nonheadache symptom represented by a different color (see legend). Nonheadache symptoms part of the associated criteria for migraine are represented below the line, other symptoms above. When a particular nonheadache symptom was reported directly prior and directly after MR scanning (no questionnaire) the symptom considered to be present during scanning in this representation.

E-Table 1: Migraine-like attack and headache characteristics from all migraine patients following GTN infusion

ID	Headache characteristics^a	Associated symptoms^b	Mimics usual migraine	Migraine-like attack onset	Peak headache (time)^c	Treatment (time)/efficacy
P1	0/NA/NA/NA	-/-/-/-	No	NA	NA	Paracetamol +caffeine 550mg at 20:00h /yes
P2	6/right/stab/+	+/-/+/-	Yes	210 min	8 (240 min)	Paracetamol+caffeine 1100mg at 15:45h, and again at 18:00h/yes
P3	5/left/throb/+	+/-/-/-	Yes	195 min	7 (270 min)	Zolmitriptan 5mg at 15:20h/yes
P4	4/bilat/throb/+	-/-/+/+	Yes	210 min	6 (300 min)	Not reported
P5	5/right/pres/+	-/-/+/-	Yes	225 min	7 (300 min)	Excedrin [®] (USA) at 16:00h, and 19:00h/NR
P7	4/bilat/pres/+	-/-/+/+	Yes	330 min	>4 (330 min)	No medication, went to sleep/yes
P8	5/left/throb/+	+/-/+/-	Yes	225 min	5 (225 min)	No medication
P9	4/bilat/pres/+	+/-/+/-	Yes	120 min	6 (225 min)	Relpax [®] 40mg at 16:00h, Paracetamol 1g 20:00h/no
P10	5/bilat/pres/+	-/-/+/-	Yes	75 min	10 (150 min)	Imigran [®] injection at 12:45h, again at 15:10h/yes

P11	0/NA/NA/NA	-/-/-/-	No	NA	NA	NA
P12	3/right/pres/+	+/-/+/-	Yes	300 min	3 (300 min)	Sumatriptan 1630h/yes
P13	5/left/throb/+	-/-/-/+	Yes	90 min	9 (300 min)	Sumatriptan 50mg 12:50h, 15:22h Imigran® injection after vomiting/yes
P14	S/bilat/throb/+	+/-/+/+	No	345 min	S (345 min)	Paracetamol 1g and naproxen 250mg 16:30h, Imigran® 17:15h/yes
P15	1/bilat/pres/-	-/-/-/-	No	NA	1 (300 min)	No medication
P16	2/left/throb/+	-/-/+/-	Yes	195 min	5 (300 min)	Almogran® 12.5mg at ±15:30h and went to sleep/yes
P17	3/bilat/pres/-	-/-/-/-	Yes	300 min	3 (300 min)	Sumatriptan 50mg 15:10h and went to sleep/yes
P18	4/right/throb/+	+/-/+/-	Yes	45 min	8 (300 min)	Imigran® injection at 11:13h/no
P19	6/left/stab/+	-/-/+/+	Yes	270 min	6 (270 min)	Alka-Seltzer® 3 tablets at 15:30h, and again at 22:00h/no
P20	3/right/throb/-	+/-/-/-	Yes	195 min	7 (300 min)	Sumatriptan 100mg 15:00h, Imigran® injection at 16:15h/yes
P21	4/bilat/pres/-	+/-/+/-	Yes	180 min	7 (285 min)	Sumatriptan injection at 15:00h, sumatriptan injection

						at 18:30h, Arcoxia® at 22:00h/yes
P22	4/left/throb/-	+/-/-/-	Yes	45 min	5 (150 min)	No medication
P23	6/bilat/pres/-	-/-/+/-	Yes	75 min	8 (120 min)	Imigran® injection at 13:15h, Advil® 200mg at 23:00h/no
P24	5/bilat/throb/-	-/-/-/+	Yes	270 min	6 (300 min)	Relpax® 40mg at 15:15h, APC 1g at 18:00h/yes
P25	5/right/throb/-	-/-/-/-	Yes	240 min	7 (300 min)	Rizatriptan 10mg at 15:30h/yes
P26	0/NA/NA/NA	-/-/-/-	No	NA	NA	No medication
P27	9/bilat/stab/+	-/-/+/+	Yes	135 min	10 (150 min)	Naproxen 440mg at 12:54 h, vomited shortly after, Imigran® injection at 14:45h, naproxen 220mg at 18:30h/yes
P28	0/NA/NA/NA	-/-/-/-	No	NA	NA	No medication
P29	6/right/stab/+	+/+/>+/+	Yes	135	7 (225 min)	Imigran® injection at 14:09h + Arcoxia® 90mg at 17:00h, sumatriptan at 100mg 19:30h/yes
P31	5/left/throb/+	-/-/+/-	Yes	135	7 (300 min)	Sumatriptan 100mg + xylomethazoline nasal spray at 15:30h /yes
P32	5/left/throb/-	+/-/-/-	Yes	165	6 (180 min)	Imigran® injection at 15:35h/yes

P34	0/NA/NA/NA	-/-/-/-	No	NA	NA	No medication
P35	5/bilat/stab/+	-/-/+/+	Yes	270	6 (300 min)	Relpax® 40 mg at 16:00h/yes
P36	7/bilat/pres/-	+/-/-/-	Yes	60	8 (165 min)	Rizatriptan 10mg around 15:00h, sumatriptan injection at 16:30h/Yes
P37	6/right/throb/-	+/-+/-	Yes	180	7 (225 min)	Sumatriptan nasal spray at 15:25h/yes

^a Verbal pain score / localization / pain quality / aggravation by movement. In case no migraine-like headache was provoked during the study day, headache characteristics on the last standard questionnaire (on 300 minutes after GTN infusion) were listed. ^b nausea / vomiting / photophobia / phonophobia. ^c In case the migraine-like attack was still developing the peak headache intensity at 300 min was provided. APC = acetylsalicylic acid, paracetamol and caffeine, Bilat = bilateral, NA = not applicable, NR = not reported, Pres = pressing, S= severe, Stab = stabbing, Throb= throbbing/pounding.

E-Table 2: Nonheadache symptoms reported after GTN (0-5h)

Nonheadache symptoms	Total symptoms		
	GTN responders (n=28)	Healthy controls (n=24)	GTN non-responders (n=6)
after GTN (0-5h)			
Any nonheadache symptom	100 (28)	54.2 (13)	100.0 (6)
Decreased urination	3.6 (1)	0 (0)	0 (0)
Fluid retention	0 (0)	4.2 (1)	0 (0)
Altered bowel habits	10.7 (3)	0 (0)	0 (0)
Thirst	57.1 (16)	29.2 (7)	33.3 (2)
Decreased appetite	35.7 (10)	4.2 (1)	0 (0)
Increased appetite	14.3 (4)	12.5 (3)	33.3 (2)
Craving for sweets	10.7 (3)	16.7 (4)	0 (0)
Face or extremity stiffness	10.7 (3)	4.2 (1)	16.7 (1)
Neck stiffness	53.6 (15)	25.0 (6)	0 (0)
Concentration difficulties	46.4 (13)	0 (0)	0 (0)
Mental restlessness	14.3 (4)	0 (0)	16.7 (1)
Physical restlessness	28.6 (8)	4.2 (1)	0 (0)
Sleep disturbances	0 (0)	0 (0)	0 (0)

Fatigue	82.1 (23)	29.2 (7)	50.0 (3)
Yawning	64.3 (18)	20.8 (5)	83.3 (5)
Feeling depressed	3.6 (1)	0 (0)	0 (0)
Feeling irritated	17.9 (5)	8.3 (2)	16.7 (1)
<hr/>			
Nausea	75.0 (21)	8.3 (2)	33.3 (2)
Vomiting	39.3 (11)	0 (0)	0 (0)
Photophobia	82.1 (23)	8.3 (2)	16.7 (1)
Phonophobia	60.7 (17)	4.2 (1)	0 (0)

Values are the numbers and percentages. GTN = Glyceryl trinitrate, N/a= not applicable.