Conclusion: The majority of VD experienced by patients during their MA were recognized as composed of one or more EVDs in our SMAI. When validated, this this tool will allow a precise VA phenotyping with useful clinical and research applications.

Table 1 (abstract A39). Occurence of each Elementary Visual Symptom (EVS) as experienced by patients in their lives and as recognized by patients via images included in the Standardized Migraine Aura Iconography (SMAI)

Elementary Visual Symptom (EVS)	Total number of a given EVS experienced by patients in their lives	Total number of a given EVS recognized by patients via SMAI image	% of a given EVS (out of total experienced by patients) recognized via SMAI image
Bright light	117	69	58.9
Foggy/ Blurred vision	142	107	75.3
Zig-zag lines	106	85	80.1
Single scotoma	119	71	59.6
Multiple scotomas	86	69	80.2
Small bright dots	116	93	80.1
White dots/round forms	104	84	80.7
Colored dots/round forms	36	15	41.6
Lines (colored lines)	51	28	54.9
Prisms / geometrical shapes	62	49	79.0
Like looking through heat waves, water, or oil	80	66	82.5
Tiny flickering dots	61	24	39.3
'Bean-like' forms	83	68	81.9
Hemianopsia	97	75	77.3
Deformed images	65	45	69.2
Tunnel vision	69	47	68.1
Oscillopsia (movement of stationary objects)	95	89	93.6
Mosaic vision	57	39	69.4
Fractured objects	50	43	86.0
Corona effect (extra edge on objects)	17	8	47.0
Total blindness	20	18	90.0
Micropsia	53	48	90.5
Macropsia	25	19	76.0
Altered colours	26	15	57.6
Complex hallucinations	4	0	0
Total:	**1741**	**1274**	**73.1**

A40

How frequent is visual aura without headache caused by an underlying cause (structural or embolic)?

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Question: How frequent is visual aura without headache (VAWOH) caused by an underlying cause?
Methods: Since 2014 subjects with VAWOH were registered in the HagaTeachingHospital registry which now holds 156 consecutive patients seen at the outpatient headache clinic during the timespan of eight years. Subjects underwent standard brain imaging (mainly MRI and in some cases CT) and the first 100 received Transcranial Doppler with emboli detection in medial cerebral artery (TCD-ED). All investigations were performed interictally.
Results: Mean age of 156 subjects in the VAWOH-registry was 59 (range 20-91 years), 107 (70%) were female. Brain imaging showed related lesions in 8 (5%) of 150 subjects. Three were scored as causal: one had an occipital dysembryoplastic neuroepithelial tumor with monthly occuring side-locked aura symptoms for more than 10 years. One subject had an occipital located metastasis of breast carcinoma. One subject had an arterio-venous malformation (AVM) located in the occipital cortex. In four subjects the diagnosis of acute migrainous infarction was made, one of these was caused by de novo trombotic thrombocytopenic purpura. In one subject an older occipital infarction was found. In these 5 ischemic subjects no active emboli were found.
TCD-ED was performed in the first 100 VAWOH subjects. This was technically not possible in 16/100 (16%) due to thick skullbone. Four subjects (5%) showed one or more embolic signals suggesting microemboli during the 30-minute bilateral ACM registration. Two of these emboli positive subjects had recently underwent mitral valve operation or repair respectively. One patient recently underwent ablation for atrial fibrillation with atrialseptal wall puncture.
Conclusions: In 7 (4.6%) of 150 evaluated subjects with VAWOH an underlying cause (structural or embolic) was found.

A41

Do novel European Headache Federation criteria identify differences in migraine burden? Baseline data of an international real-life study on resistant and refractory migraine (REFINE)

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Question. We evaluated if EHF criteria for resistant (RES) and refractory (REF) migraine identify patients with more severe migraine burden.
Methods. We performed an observational, multi center, international study to compare baseline characteristics, comorbidities, and PROMs of non-resistant and non-refractory (NRNR) migraine, RES and REF individuals in the REFINE study.
Results. We included 175 individuals with NRNR migraine, 133 (39.7%) with RES and 27 (8.0%) with REF. Individuals with RES and REF migraine as compared to those with NRNR reported higher monthly migraine days (median=8, IQR=5-14 vs. median=13, IQR=10-17 and median=15, IQR=10-20; p≤0.001), months of chronification (median=24, IQR=12-72 vs. median=40, IQR=12-108 and median=60, IQR=18-96; p=0.044), monthly days of symptomatic drugs assumption (median=8, IQR=5-15 vs. median=12, IQR=9-20 and median=15, IQR=10-20; p≤0.001), medication overuse (19.4% vs. 45.9% and 40.7%; p≤0.001). They also had more comorbidities such as depression (18.3% vs. 31.1% and 44.4%; p=0.002) and anxiety (13.7% vs. 21.1% and 37%; p=0.009). In these groups, PROMs also revealed a higher presence of anxiety (p≤0.001) and depression (p≤0.001) symptoms and poorer sleep quality (p=0.006). Regarding specific perceptions about migraine, RES and REF individuals reported higher impact of migraine on daily life (p≤0.001) and work, household work, and social life (p≤0.001), along with a lower perception of the effectiveness of their ongoing treatment for migraine (p≤0.001), when compared to NRNR subjects (Table 1).

Conclusion. RES and REF migraine is associated with relevant migraine burden considering migraine features, comorbidities and scores at several scales; the severe burdensome condition of RES and REF is confirmed by the median number of monthly migraine days and PROMs.

Table 1 (abstract A41). Patient reported outcome measures (PROMs) scores reported as median (IQR)

	Total (n = 335)	Non-resistant and non-refractory migraine (n = 175)	Resistant migraine (n = 133)	Refractory migraine (n = 27)	p-value
Hospital Anxiety and Depression Scale score - anxiety symptoms*	8 (5-11)	7 (4-9)	10 (6-12)	10 (7-13)	<0.001
Hospital Anxiety and Depression Scale score - depression symptoms*	6 (3-9)	5 (2-8)	8 (5-11)	9 (6-13)	<0.001
Insomnia Severity Index score*	10 (5-16)	8 (4-13)	13 (5-17)	15 (7-20)	0.006
Headache Impact Test-6 score*	63 (59-67)	62 (57-65)	65 (61-68)	64 (60-68)	<0.001
Headache Attributed Lost Time score score*	29 (14-39)	19 (6-43)	40 (21-75)	46 (24-110)	<0.001
Headache Utility-Response to Treatment score*	15.0 (11.0-18.0)	13.0 (8.0-16.0)	17.5 (13.0-20.0)	16.0 (14.0-19.0)	<0.001

*Higher scores indicate worst clinical outcomes
*Higher scores indicate better clinical outcomes

A42

OnabotulinumtoxinA in elderly patients with chronic migraine: insights from a Real-Life European Multicenter Study

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QUESTION The prevalence of migraine decreases after the fifth decade of life. However, when persisting in old age, migraine may be highly disabling, and some patients can still suffer from chronic migraine (CM). This study aimed to investigate the outcome of OBT-A as preventative therapy in elderly CM patients.
METHODS: This is a post-hoc analysis of real-life prospectively collected data at 16 European headache centers on patients treated with OBT-A for CM over the first three treatment cycles. Patients aged ≥65 years were defined as OLD, and those <65-year-old, non-OLD. The primary endpoint was the changes in monthly headache days (MHDs) from baseline to each treatment cycle (i.e., Cy1-3) in OLD compared with nonOLD participants. The secondary endpoints were the frequency of responder rate (RR) ≥50%, conversion to episodic migraine (EM) and the changes in days with acute medication use (DAMs) from baseline to Cy-3.
RESULTS In a cohort of 2831 CM patients, 235 were OLD (8.3%, range 65-91 yrs, 69.6 SD 4.7; 73.2% females) with a migraine history of 47.2 yrs (SD 13.5), of which 15.2 (SD 13.9) with a chronic frequency. After Cy-3, 32.3% of OLD participants discontinued the treatment. We observed a progressive decrease in MHDs from baseline (24.8 SD 6.2) to Cy-1 (17.5 SD 9.1, p<.000001), from Cy-1 to Cy-2 (14.8 SD 9.2, p<.0001), and from Cy-2 to Cy-3 (11.9 SD 7.9, p =.001) and in DAMs from baseline (19.2 SD 9.8) to Cy-1 (11.9 SD 8.8, p<.00001), from Cy-1 to Cy-2 (10.9 SD 8.6, p=.012), and from Cy-2 to Cy-3 (9.6 SD 7.4, p =.049). The percentage of OLD patients with RR ≥50% increased from 30.7% (Cy-1) to 34.5% (Cy-2), to 38.7% (Cy-3). The changes in MHDs and the frequency of RR ≥50% or conversion to EM did not differ in OLD compared with nonOLD patients along with the three cycles.
CONCLUSION In a population of elderly CM patients, OnabotulinumtoxinA provided a significant benefit in the first three cycles of treatment, as good as in non-old patients.

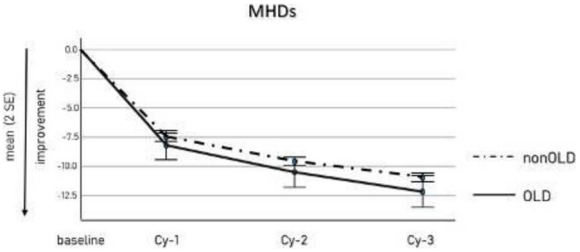

Fig. 1 (abstract A42). See text for description.

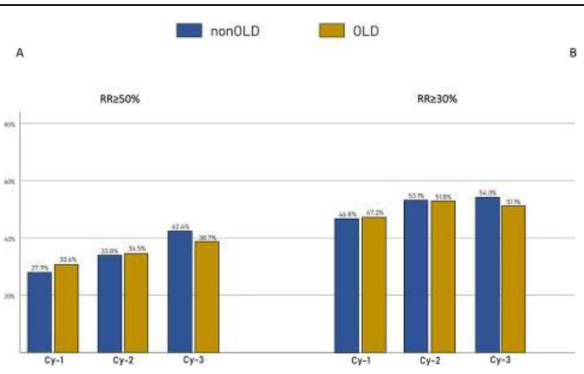

Fig. 2 (abstract A42). See text for description.

A43

Pre-attack and pre-episode symptoms in cluster headache: a multicenter cross-sectional study of 327 Chinese patients

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