Table 1 Behavioral data (accuracy and response time) for healthy controls and a MCI patients with different APOE ε4 status.

Condition	Stimulus	HC		aMCI	
		APOE ε4 - (n = 25)	APOE ε4 + (n = 18)	APOE ε4 - (n = 27)	APOE ε4 + (n = 12)
Accuracy					
0-back	Non-Target	0.95 (0.04)	0.91 (0.07)	0.90 (0.08)[a]	0.86 (0.13)
	Target	0.88 (0.11)	0.83 (0.08)	0.78 (0.18)	0.72 (0.14)[b]
1-back	Non-Target	0.82 (0.10)	0.77 (0.09)	0.74 (0.14)[a]	0.70 (0.20)
	Target	0.83 (0.10)	0.78 (0.09)	0.74 (0.18)	0.60 (0.18)[b]
Response time					
0-back	Non-Target	640.96 (117.98)	645.22 (58.44)	663.57 (119.89)	768.61 (206.29)[b]
	Target	682.02 (118.39)	699.71 (93.11)	713.53 (92.59)	787.60 (172.46)[b]
1-back	Non-Target	643.33 (122.62)	665.64 (62.34)	787.74 (169.42)	838.15 (197.73)[b]
	Target	759.40 (158.11)	817.06 (107.08)	941.52 (187.56)	988.89 (180.22)[b]

Data are presented as mean ± standard deviation (SD). aMCI: amnestic mild cognitive impairement; APOE: apoliprotein E; HC: healthy controls.
[a]Post-hoc tests by Bonferroni's analysis further revealed the source of ANCOVA difference ($P < 0.05$, HC-APOE ε4−vs. aMCI-APOE ε4−).
[b]Post-hoc tests by Bonferroni's analysis further revealed the source of ANCOVA difference ($P < 0.05$, HC-APOE ε4+vs. aMCI-APOE ε4+).

Table 2 ERP data (P300 amplitude) for healthy controls and aMCI patients with different APOE ε4 status.

Task	site	HC		aMCI	
		APOE ε4 - (n = 25)	APOE ε4 + (n = 18)	APOE ε4 - (n = 27)	APOE ε4 + (n = 12)
0-back	CP1	3.69 (2.07)	3.23 (0.42)	3.16 (3.00)	2.44 (1.62)
	CPz	4.11 (1.63)	3.17 (0.68)	3.03 (1.82)[c]	2.45 (1.61)
	CP2	3.23 (1.69)	3.16 (0.87)	2.97 (1.64)	2.35 (1.66)
	P1	3.84 (2.37)	3.54 (1.01)	3.22 (1.80)	2.03 (1.78)[b,d]
	Pz	4.42 (2.25)	3.50 (0.91)	3.31 (1.77)	2.59 (2.56)
	P2	4.89 (2.02)	3.11 (1.00)[a]	3.04 (2.10)[c]	2.34 (1.96)
1-back	CP1	3.61 (2.14)	3.34 (0.65)	2.98 (3.38)	2.42 (1.59)
	CPz	4.63 (2.00)	3.21 (1.21)[a]	2.62 (1.80)[c]	2.53 (1.78)
	CP2	3.93 (1.92)	3.60 (1.12)	3.34 (2.07)	2.31 (1.56)[b,d]
	P1	4.49 (2.58)	3.24 (1.07)	3.00 (1.93)[c]	2.49 (2.10)
	Pz	5.11 (2.34)	3.43 (0.93)	3.23 (1.89)	2.54 (1.39)
	P2	4.52 (2.34)	3.71 (1.26)	3.53 (2.28)[c]	2.54 (1.74)[d]

Data are presented as mean ± standard deviation (SD); aMCI: amnestic mild cognitive impairement; APOE: apoliprotein E; HC: healthy controls.
[a]Post-hoc tests by Bonferroni's analysis further revealed the source of ANCOVA difference ($P < 0.05$, HC-APOE ε4− vs. HC-APOE ε4+).
[b] Post-hoc tests by Bonferroni's analysis further revealed the source of ANCOVA difference ($P < 0.05$, aMCI-APOE ε4− vs. aMCI-APOE ε4+).
[c]Post-hoc tests by Bonferroni's analysis further revealed the source of ANCOVA difference ($P < 0.05$, aMCI-APOE ε4− vs. HC-APOE ε4−).
[d]Post-hoc tests by Bonferroni's analysis further revealed the source of ANCOVA difference ($P < 0.05$, aMCI-APOE ε4+ vs. HC-APOE ε4+).

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EW0195

Charles Bonnet Syndrome (CBS): Successful treatment of visual hallucinations due to vision loss with agomelatine in three cases

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Background CBS becomes more prevalent as the population ages. CBS is characterized by the triad of impairment of vision, complex visual hallucinations with insight, mentally normal people. Although visual hallucinations in the elderly are often associated with dementia with Lewy body, Alzheimer's disease and delirium, they are excluded from the diagnosis of typical CBS. Here, we describe three typical CBS patients whose visual hallucinations developed after bilateral severe visual impairment due to diabetic retinopathy. The effectiveness of agomelatine adds to evidence implicating serotonergic and melatoninergic pathways in the pathogenesis of visual hallucinations.
Case report The average age of these three patients (2 males and 1 female) is 71. Except for the visual hallucinations, all patients showed no psychiatric symptoms or cognitive decline or neurological focal signs. They were frequently upset by the fact of hallucinating, fearing that they are losing their minds. They lived in fear of impending insanity, guilty feeling, unhappy mood, insomnia. The frequency of visual hallucinations stopped with agomelatine 25 mg/day for 3 weeks in these cases.
Discussion To our knowledge, this is the first report describing the effectiveness of agomelatine in treating typical CBS patients and indicates that agomelatine is an safer option for the treatment of CBS, especially in the elderly, diabetic population. Therapeutic options for CBS still remain poor and of uncertain benefit for the individual patient. CBS has a high prevalence rate (0.4%–30%) among the visually impaired. Clinicians must ask elderly people with visual impairment whether they have hallucinations. Firm reassurance that the syndrome is not related to mental illness is a major relief to an elderly person burdened already with failing vision.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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EW0196

White matter hyperintensities as a new predictor of driving cessation in the elderly

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Background/aims Motor, perceptual, and cognitive functions affect driving competence. White matter hyperintensities (WMH) changes on brain MRI are associated structural brain changes along with cognitive and motor performance. The aim of this study was to investigate the association between WMH and driving ability in the elderly.
Methods Participants ($n = 540$) were drawn from a nationwide, multicenter, hospital-based, longitudinal cohort study. Each participant underwent clinical evaluations, neuropsychological tests, and interview for caregiver including driving capacity, which was categorized as 'now driving', and 'driving cessation (driving before, not now)'. A total 540 participants were divided into three groups (389 mild, 116 moderate, and 35 severe) depending on the degree of WMH. The same evaluations of them were followed after each year. The statistical analyses were performed using χ^2 test, an analysis of variance (ANOVA), structured equation model (SEM), and generalized estimating equation (GEE).
Results In a SEM, greater baseline degree of WMH was directly associated with driving cessation regardless of cognitive and motor dysfunction ($\beta = -0.110$, $P < 0.001$). In GEE models controlling for age, sex, education, cognitive, and motor dysfunction, the more severe changes of the degree of WMH was associated with the

faster change from 'now driving' state to 'driving cessation' state over time in the elderly ($\beta = -0.508$, $P < 0.001$).
Conclusion In both cross-sectional and longitudinal aspects, the degree of WMH might be one of the predictive factors for driving cessation in the elderly, reflecting both motor and cognitive functions or independently.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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EW0197

Swallowing disturbances and psychiatric profile in older adults: The GreatAGE study

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Introduction Several studies have reported controversial links between swallowing disturbances (SD) and psychiatric disorders in older age. The available data on the epidemiology of SD in the general population are scarce and often conflicting, because of numerous methodological factors source of possible counfounders.
Objectives We aimed to screen the presence of psychiatric and cognitive disorders associated with SD in a random sampling of the general population ≥ 65.
Methods A sample of 1127 elderly individuals collected in a population-based study (GreatAGE) in Castellana Grotte (53,50% males, mean age 74.1 ± 6.3 years), South-East Italy, were mailed a validated self-report questionnaire to assess SD (Eating Assessment Tool-EAT10). Psychiatric disorders and symptoms [assessed with Semi-structured Clinical Diagnostic Interview for DSM-IV-TR Axis I Disorders, Geriatric Depression Scale-30 (GDS-30) and Symptom Checklist Revised-90 (SCL-90R)], cognitive functions were assessed with a comprehensive neuropsychological battery, neurological exam, and demographics were compared in participants with and without SD using *t*-tests and Mann–Whitney *U*-test.
Results The prevalence rates of SD amounted at 5.97%. Psychiatric diagnosis (24.22% of the sample) was statistically significant associated with SD (EAT ≥ 3, $P = 0.038$), and a trend was found for major depressive disorder and generalized anxiety disorder. Among SCL-90R domains, only anxiety showed a significant association with EAT ≥ 3 ($P = 0.006$). GDS-30 score was found to be higher in subjects with SD ($P = 0.008$). Cognitive functions did not differ between the two groups except for an increasing trend for Clinical Dementia Rating Scale in EAT ≥ 3 ($P = 0.058$).
Conclusions These preliminary results showed an association between SD in older age and late-life major depression and anxiety disorders.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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EW0198

Educational level influenced the gold standard diagnosis of late-life depression in the GreatAGE study

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Introduction The validity of the 30-item Geriatric Depression Scale (GDS-30) in detecting late-life depression (LLD) requires a certain level of cognitive functioning. Further research is needed in population-based setting on other socio-demographic and cognitive variables that could potentially influence the accuracy of clinician rated depression.
Objective To compare the diagnostic accuracy of two instruments used to assess depressive disorders [(GDS-30) and the Semi-structured Clinical Diagnostic Interview for DSM-IV-TR Axis I Disorders (SCID)] among three groups with different levels of cognitive functioning (normal, Mild Cognitive Impairment – MCI, Subjective Memory Complain – SMC) in a random sampling of the general population 65+ years.
Methods The sample, collected in a population-based study (GreatAGE Study) among the older residents of Castellana Grotte, South-East Italy, included 844 subjects (54.50% males). A standardized neuropsychological battery was used to assess MCI, SMC and depressive symptoms (GDS-30). Depressive syndromes were diagnosed through the SCID IV-TR. Socio-demographic and cognitive variables were taken into account in influencing SCID performance.
Results According to the SCID, the rate of depressive disorders was 12.56%. At the optimal cut-off score (≥ 4), GDS-30 had 65.1% sensitivity and 68.4% specificity in diagnosing depressive symptoms. Using a more conservative cut-off (≥ 10), the GDS-30 specificity reached 91.1% while sensitivity dropped to 37,7%. The three cognitive subgroups did not differ in the rate of depression diagnosis. Educational level is the only variable associated to the SCID diagnostic performance ($P = 0.015$).
Conclusions At the optimal cut-off, GDS-30 identified lower levels of screening accuracy for subjects with normal cognition rather than for SMC (AUC 0.792 vs. 0.692); educational attainment possibly may modulate diagnostic clinician performance.
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