

**ORDINE DEI MEDICI DELLA PROVINCIA DI BERGAMO**

***Corso di formazione***

***La gestione delle demenze in Provincia di Bergamo***



**Massimo Camerlingo, MD,  
UO Neurologia-Policlinico San Marco**

**Sabato 06 giugno 2023**

**Fin dal mio arrivo al  
Policlinico San Marco di  
Zingonia (anno 2002)  
ho attivato un piano  
per le demenze da cui  
sono nate alcune iniziative**

# PROPOSTA DI UN MODELLO ORGANIZZATIVO PER LE MALATTIE CHE PORTANO A DEMENZA IN PROVINCIA DI BERGAMO

---

CORSO DI AGGIORNAMENTO PER MMG  
SULL'ASSISTENZA AL MALATO DEMENTE

Bergamo, 28 settembre 2002

Massimo Camerlingo

# Perché è necessario un modello organizzativo “nuovo” ?

---

- Invecchiamento
- Cronicizzazione di malattie severe
- Aumento della prevalenza delle malattie dell'anziano
- Contrazione delle risorse

# PRIORITA'

---

conoscere  
il più anticipatamente possibile  
il carico  
di una malattia

---

# DIAGNOSI PRECOCE

# Vantaggi della diagnosi precoce

---

- Inizio di terapie adeguate nelle fasi dove le stesse sono più efficaci
- Prevenzione della progressione e delle complicanze
- Predisposizione di una strategia di assistenza alle famiglie

# CHI SONO I POSSIBILI ATTORI ?

---

- MMG
- Centri di riferimento
- ASL

# MMG PERCHE'?

---

- Il MMG conosce a fondo la popolazione dei suoi assistiti
- Il MMG è radicato in un dato territorio
- Il MMG è un professionista preparato e oggi abituato al lavoro di gruppo

# COSA DEVE FARE IL MMG ?

---

- visitare le persone a rischio
- raccogliere dati generali
- raccogliere fattori di rischio
- sapere quando eseguire un Mini-Mental
- sapere quando inviare l'assistito al Centro di Riferimento

# Caratteristiche dei Centri di riferimento

---

- Numericamente limitati e rappresentativi di un'area
- Capaci di affrontare rapidamente e direttamente i problemi diagnostici dopo il primo screening
- Essere in rete

# CHI RACCOGLIE E CONTROLLA I DATI ?

---

- Servizio di Epidemiologia ASL
- Comitato di Garanzia

---

IL PROGETTO POTREBBE ESSERE  
ANTICIPATO  
DA UNO STUDIO PILOTA  
CON LA PARTECIPAZIONE  
DI MMG SPARSI NELLA  
PROVINCIA DI BERGAMO

# CONCLUSIONI

---

LA DEMENZA DI ALZHEIMER  
PUO' ESSERE COMBATTUTA  
FORSE PIU' ADEGUATAMENTE  
DA UNA ALLEANZA  
TRA  
MMG, CENTRI E ASL

# **Studio delle funzioni cognitive in ValSeriana Superiore**

**M. Camerlingo, V. Brancato,  
L. DePonti, S. Rocchi**

**&**

**Gruppo di MMG dell'alta Valseriana  
ASL della Provincia di Bergamo**



# Background

- in tutto il mondo la vita media si sta allungando
- di conseguenza aumentano patologie collegate all'età, un tempo di nicchia
- una patologia in grande espansione è la malattia di Alzheimer, la cui prevalenza tende ora a raggiungere il 5 per mille della popolazione generale

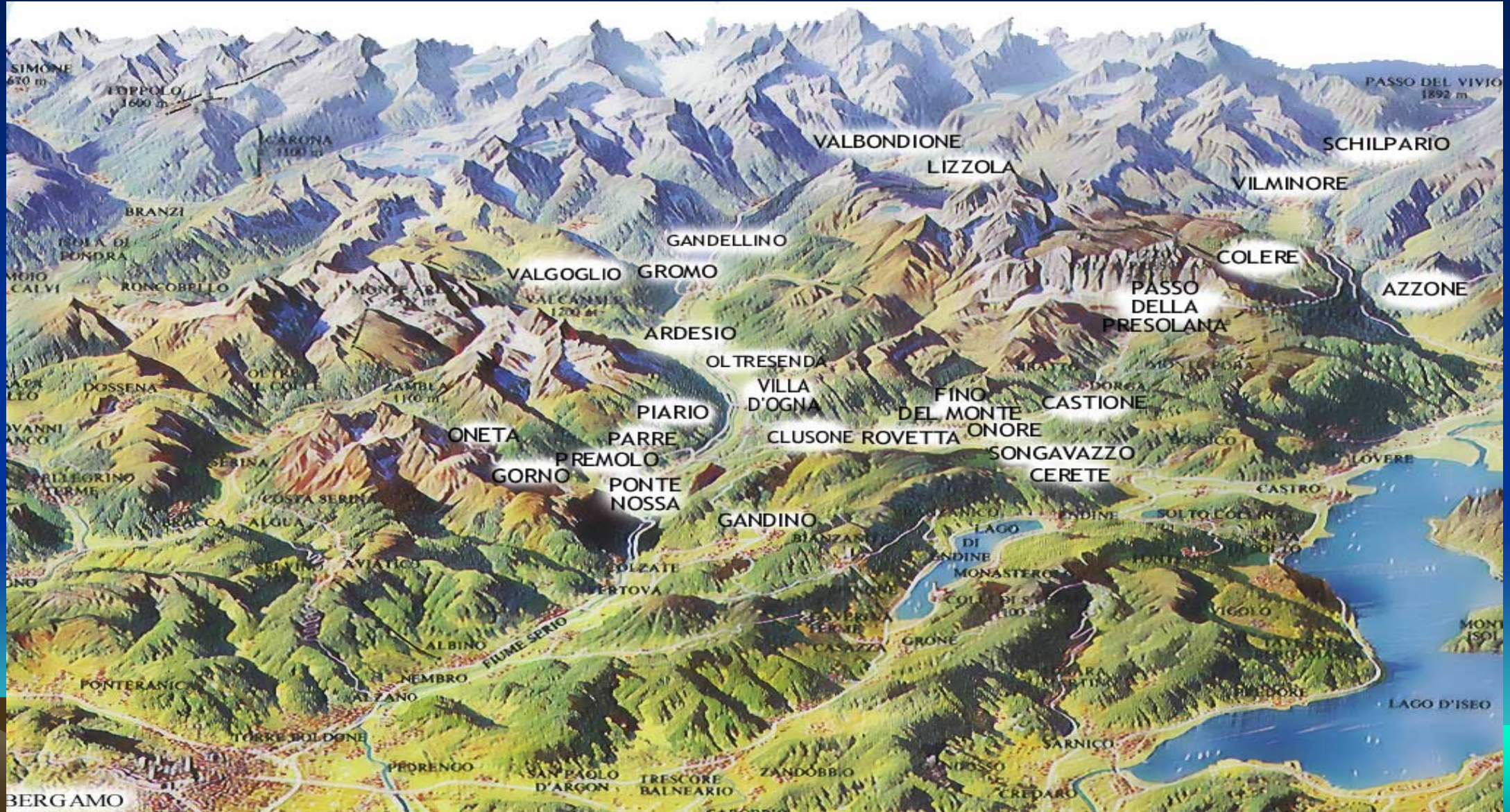


# Scopo dello studio

Effettuare il rilevamento di un test generale delle funzioni cognitive in un'area geografica ben definita e con popolazione stabile



# ValSeriana Superiore



# Disegno dello studio


- MMG
- Ambo sessi
- Età 55 – 89 anni
- Rilevamento stato sociale e fattori di rischio vascolare
- MiniMental State



## Mini-Mental State Examination (MMSE)

Patient's Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Instructions:** Ask the questions in the order listed. Score one point for each correct response within each question or activity.

Maximum Score	Patient's Score	Questions
5		"What is the year? Season? Date? Day of the week? Month?"
5		"Where are we now: State? County? Town/city? Hospital? Floor?"
3		The examiner names three unrelated objects clearly and slowly, then asks the patient to name all three of them. The patient's response is used for scoring. The examiner repeats them until patient learns all of them, if possible. Number of trials: _____
5		"I would like you to count backward from 100 by sevens." (93, 86, 79, 72, 65, ...) Stop after five answers. Alternative: "Spell WORLD backwards." (D-L-R-O-W)
3		"Earlier I told you the names of three things. Can you tell me what those were?"
2		Show the patient two simple objects, such as a wristwatch and a pencil, and ask the patient to name them.
1		"Repeat the phrase: 'No ifs, ands, or buts.'"
3		"Take the paper in your right hand, fold it in half, and put it on the floor." (The examiner gives the patient a piece of blank paper.)
1		"Please read this and do what it says." (Written instruction is "Close your eyes.")
1		"Make up and write a sentence about anything." (This sentence must contain a noun and a verb.)
1		"Please copy this picture." (The examiner gives the patient a blank piece of paper and asks him/her to draw the symbol below. All 10 angles must be present and two must intersect.)  
30		<b>TOTAL</b>

(Adapted from Rovner & Folstein, 1987)

I MMG partecipanti sono stati  
istruiti da personale specializzato  
sulla somministrazione del MMSE

Sono stati scelti due giorni consecutivi della prima  
settimana di un mese per due mesi



# tipo di analisi

- assumendo MMSE “quasi lineare”
- test di correlazione
- significatività  $p < 0.05$

# MMG e popolazione

- 43 MMG per 43350 abitanti
- hanno partecipato 16 MMG/16750 abitanti
- 3-53 schede per singolo MMG

# MMG/schede/paese

- 1 Bertoni F. = 3
  - 2 Baiguini F. = 19
  - 3 Zamboni F. = 6
  - 4 Pacchioni G. = 3
  - 5 Milana V. = 5
  - 6 Seghezzi A. = 53
  - 7 Tomasoni G. = 34
  - 8 Pistacchio G. = 31
  - 9 Fiorina F. = 30
  - 10 Novelli S. = 30
  - 11 Filisetti G. = 30
  - 12 Baronchelli B. = 30
  - 13 Vavassori N. = 27
  - 14 Fino R. = 16
  - 15 Scano C. = 2
  - 16 Filisetti M. = 21
- Castione P
  - Castione P
  - Cerete
  - Rovetta
  - Ardesio
  - Parre
  - Villa d'Ogna
  - Ardesio
  - Castione P
  - Clusone
  - Gromo
  - Villa d'Ogna
  - Rovetta
  - Valbondione
  - Clusone
  - Gorno, Oneta

# Caratteristiche della popolazione 1

- N 355
- Età 50-89 media 70.7, mediana 71
- Età > 65 260 (73.2%)
- Maschi 146 (41.1%)
- Femmine 209 (58.9%)

# Caratteristiche della popolazione 2

# Caratteristiche della popolazione 3

• N	355	
• ipertensione	237	(66.8%)
• diabete m.	63	(17.7%)
• colesterolo	93	(26.2%)
• fa	31	( 8.7%)
• ima	25	( 7.0%)
• ictus	16	( 4.5%)
• aocp	35	( 9.9%)

# MMSE

- Et   $< .001$  -
- famil.dem.  $< .01$  -
- scuola  $< .001$  +
- vita non single  $< .001$  +

nessuna relazione con i fattori “ vascolari “  
salvo per MMSE  $< 18$  :

- FA  $< .001$  -

# Conclusioni

- MMSE associato a fattori sociali e ereditari
- solo FA tra i fattori vascolari per MMSE bassi
- MMG ottimo strumento di controllo del territorio



# Postilla

questo lavoro è stato reso possibile grazie all'indispensabile contributo e spinta di :

1. Associazione Alzheimer Bergamo
2. ASL di Bergamo che aveva messo la malattia di Alzheimer al 2<sup>a</sup> posto degli obiettivi,
3. Sindaco del Comune di Clusone, Dr. Guido Giudici
4. Lion club Valle Seriana

## **Due Obiettivi**

**1. ridurre il carico di ricovero  
ospedaliero per demenza**

**2. studiare forme «rare» di demenza**

# **Risultati**

**1. ospedalizzazioni**

**2. forme rare**

# **Risultati**

**1. ospedalizzazioni**

**2. forme rare**

# **Ricoveri-Zingonia**

# **Esperienza personale**

# **2019-2021**

---

**MASSIMO CAMERLINGO**

**UO NEUROLOGIA**

**POLICLINICO SAN MARCO**

# Ricoveri totali UO

## N = 1931

**CRITERI :**

**SCHEDA SDO 1<sup>^</sup>-2<sup>^</sup>-3<sup>^</sup> DIAGNOSI**

---

<b>ICD9CM</b>	<b>331.*</b>	<b>N = 83</b>
<b>ICD9CM</b>	<b>333.*</b>	<b>N = 13</b>

# Cause di ospedalizzazione diverse dalla malattia demenziale

---

	<b>331.*</b>	<b>333.*</b>
<b>Trauma cranico</b>	<b>10</b>	<b>2</b>
<b>Stroke ischemico</b>	<b>10</b>	<b>1</b>
<b>Emorragia cerebrale</b>	<b>3</b>	
<b>Crisi epilettiche</b>	<b>9</b>	
<b>Agitazione/confusione</b>	<b>6</b>	<b>3</b>
<b>Polmoniti/Sepsi</b>	<b>4</b>	<b>2</b>

# CONCLUSIONI

- 1. I RICOVERI ASSOCIATI A 331.\*-333.\*  
RAPPRESENTANO ANCORA IL 5% DEL TOTALE**
- 2 PIU'DELLA META' SONO CAUSATI DA  
PROBLEMI ACUTI AL DI FUORI DELLA  
MALATTIA E QUINDI INCOMPRIMIBILI**
- 3. UNA QUOTA DEI RICOVERI SONO LEGATI ALLE BPSD**
- 3. LA MAGGIORANZA SONO DAT/SDAT**

**BPSD (1994)**  
**altrimenti dette anomalie**  
**neuropsichiatriche delle demenze**

## Treatment of behavioral and psychological symptoms of dementia: a systematic review

Ulrich W. Preuss<sup>1</sup>, Jessica W.M. Wong<sup>2</sup>, Gabriele Koller<sup>3</sup>

<sup>1</sup>Vitos-Klinik Herborn Psychiatry und Psychotherapy, Department of Psychiatry, Psychotherapy,  
Psychosomatics, Martin-Luther-University Halle-Wittenberg

<sup>2</sup>Klinik Eschenburg, Eschenburg

<sup>3</sup>Department of Psychiatry and Psychotherapy, Ludwig-Maximilians-University,  
Munich, Campus City Center

### Summary

BPSD (Behavioral and Psychological Symptoms in Dementia) affects virtually all patients with dementia. The aim of this review is to present information on epidemiology, consequences and evidence-based non-pharmacological and pharmacological treatment approaches. The review also covers recent literature derived from a systematic literature Medline search on BPSD. Results indicate that BPSD are major risk factors for an earlier placement of affected individuals in nursing homes and a potentially more severe course of dementia over time. Treatment of BPSD is complex and includes both strategies.

**Key words:** dementia, BPSD, treatment

### Introduction

The term BPSD (Behavioral and Psychological Symptoms in Dementia) was proposed in 1994. The International Psychogeriatric Association (IPA) proposed and elaborated this concept [1], BPSD have been well documented among patients with several types of dementia, including Alzheimer's disease (AD), vascular dementia (VaD), Parkinson's disease with dementia (PDD), frontotemporal lobe degeneration (FTLD), and more recently mild cognitive impairment (MCI) [2–5]. BPSD include a variety of symptoms like agitation, depression, apathy, repetitive questioning, psychosis, aggression, sleep problems, wandering, and a variety of inappropriate behaviors. One or more of these symptoms will affect the vast majority of individuals with dementia over the course of their illness [6].

# Sono la causa più frequente di istituzionalizzazione

# Prevalence, correlates and course of behavioural and psychological symptoms of dementia in the population<sup>†</sup>

George M. Savva,\* Julia Zaccai,\* Fiona E. Matthews, Julie E. Davidson, Ian McKeith, Carol Brayne, of behalf of the Medical Research Council Cognitive Function and Ageing Study

**Background**  
Behavioural and psychological symptoms of dementia (BPSD) are major contributors to the burden of dementia.

**Aims**  
To describe the prevalence, correlates and course of BPSD in the population of England and Wales.

**Method**  
The prevalence of 12 symptoms was estimated in 587 participants with dementia and 2050 participants without dementia as part of a population-based longitudinal study of ageing. The effect of risk factors and the factor structure were estimated using 1782 interviews provided by with dementia throughout the study.

**Results**  
Each symptom apart from sleeping problems was more in the population with dementia. The co-occurrence

of the symptoms was explained by a four-factor solution, corresponding to psychosis/apathy, depression/anxiety, irritability/persecution and wandering/sleep problems. Psychosis occurred more frequently with declining cognition. Anxiety and depression were more common in younger individuals and in those with poor self-reported health. Persistence varied between symptoms.

**Conclusions**  
Behavioural and psychological symptoms of dementia affect nearly all people with dementia. Symptoms co-occur, and the symptoms that affected individuals experience are related to their socio-demographic and clinical characteristics. participants

**Declaration of interest**  
This study was funded by a grant from GlaxoSmithKline. The Cognitive Function and Ageing Study is supported by the common Medical Research Council.

Behavioural and psychological problems affect almost all people with dementia at some point during the progression of the disorder.<sup>1</sup> They result in long-term hospitalisation, increased medication and decreased quality of life for caregivers and patients.<sup>2</sup> It is not clear whether behavioural and psychological symptoms of dementia (BPSD) are epiphenomena of the neurodegenerative process or are the symptoms of specific, biologically distinct subtypes of dementing disorders. Understanding the prevalence and risk factors for BPSD is a first step in developing treatment regimes and policies for their management. Few studies of BPSD prevalence have been conducted in a population setting,<sup>3–5</sup> and inconsistent assessment and ascertainment methods and the use of different sources for the study cohorts have led to estimates of the prevalence of BPSD that differ enormously. Cross-sectional studies have shown that different symptoms are more common at different stages of dementia<sup>6–9</sup> and suggest a complex course of BPSD that must be examined in a longitudinal setting.

The Medical Research Council Cognitive Function and Ageing Study (MRC CFAS) offers a setting that overcomes many of the methodological problems associated with investigating the epidemiology of BPSD. It is a large, prospective, population-based study of health in elderly people using an array of validated questionnaires. In this paper we describe the epidemiology of BPSD in the elderly population of England and Wales. We estimate their prevalence in the 587 study participants diagnosed with dementia at baseline compared with similar symptoms in 2050 participants without dementia. We describe their co-occurrence pair-wise and analyse the pattern of the co-occurrence using factor

analysis, and investigate demographic and clinical correlates for each symptom we describe. We further report the profile of BPSD in the 244 participants with dementia at baseline who were available for reassessment 2 years after the baseline interview and the 348 participants who developed dementia within the period between the baseline and follow-up interviews.

## Method

### Study population and data sources

The MRC CFAS has been fully described elsewhere.<sup>10</sup> It is a multicentre longitudinal population-based study of ageing, with a focus on cognitive and physical decline. Random samples of people aged 65 years and over were contacted at each of five centres representative of rural and urban areas in England and Wales (Cambridgeshire, Gwynedd, Newcastle upon Tyne, Nottingham and Oxford) with an 82% response rate. A total of 13 004 participants were followed.

Figure 1 shows a flow diagram of the interviews in the MRC CFAS from which BPSD could be assessed. Each participant underwent an initial screening interview. A 20% subsample of those screened, stratified by cognitive ability, was selected for detailed assessment. After 2 years, a re-screen of the entire remaining study population was undertaken and a further 20% subsample of those not previously assessed underwent the assessment, together with a second assessment interview for those who had previously been assessed. Both assessment groups were followed up again 6 years after the first interview, a subsample of these were reassessed at 8 years, and a full assessment of the entire remaining cohort was undertaken after 10 years.

<sup>†</sup>See editorial, pp. 199–200, this issue.

\*These authors contributed equally to the work.

# Sono presenti in quasi tutti i malati

RESEARCH ARTICLE

Open Access

## Behavioural and psychological symptoms in the older population without dementia - relationship with socio-demographics, health and cognition

Rianne van der Linde<sup>1</sup>, Blossom CM Stephan<sup>1</sup>, Fiona E Matthews<sup>2</sup>, Carol Brayne<sup>1</sup>, George M Sawa<sup>1\*</sup>,  
the Medical Research Council Cognitive Function and Ageing Study

### Abstract

**Background:** Behavioural and psychological symptoms are associated with dementia, but are also present in a significant number of the older population without dementia. Here we explore the distribution of behavioural and psychological symptoms in the population without dementia, and their relationship with domains and severity of health and cognitive impairment.

**Methods:** The Medical Research Council Cognitive Function and Ageing Study is a two-phase longitudinal study of ageing representative of the population aged 65 and over of England and Wales. A subsample of 1781 participants without a study diagnosis of dementia was included in this study. Information on symptoms including depression, apathy, anxiety, feelings of persecution, hallucination, agitated behaviour, elation, irritability, sleep problems, wandering, confabulation and misidentification, cognitive function, health related factors and socio-demographic information was extracted from interviews with participants and knowledgeable informants. Participants were classified according to the Mini-Mental State Examination and by criteria for subtypes of mild cognitive impairment (MCI). The prevalence of behavioural and psychological symptoms and associations with cognitive function, health and socio-demographics was examined. Co-occurrence of symptoms was tested using factor analysis.

**Results:** Most symptoms were reported more frequently in those with more severe cognitive impairment. Subjective memory complaints were the strongest independent predictor of reported symptoms, and most were reported more often in those classified as having MCI than in those with cognitive impairments that did not meet the MCI criteria. The pattern of co-occurrence of symptoms is similar to that seen in dementia.

**Conclusions:** Our results highlight that behavioural and psychological symptoms are prevalent in the cognitively impaired older population, and partly explain the variation observed in previous cohorts of individuals with MCI. Behavioural and psychological symptoms offer a target for intervention and so are an important consideration in the assessment of cognitively impaired older people.

### Background

Behavioural and psychological symptoms are common in dementia. These symptoms include depression and anxiety, psychotic symptoms, wandering, agitated behaviour and sleep disorders, and are collectively known as the behavioural and psychological symptoms of dementia (BPSD). These symptoms confer a large proportion

of the social burden of dementia [1,2], and are important targets for intervention in dementia patients [3]. Yet these symptoms are not restricted to those with dementia. Many behavioural and psychological problems are also present in a significant proportion of the non-demented older population [4,5]. Behavioural and psychological symptoms have been associated with cognitive impairments not sufficient for a diagnosis of dementia, although their prevalence and relationship to cognitive impairments are not clear. Two recent reviews have highlighted the variation in estimates of the

\* Correspondence: [george.sawa@phpc.cam.ac.uk](mailto:george.sawa@phpc.cam.ac.uk)

<sup>1</sup>Department of Public Health and Primary Care, University of Cambridge, Institute of Public Health, Robinson Way, Cambridge, CB2 0SR, UK  
Full list of author information is available at the end of the article

## Effectiveness of Atypical Antipsychotic Drugs in Patients with Alzheimer's Disease

Lon S. Schneider, M.D., Pierre N. Tariot, M.D., Karen S. Dagerman, M.S., Sonia M. Davis, Dr.P.H.,  
John K. Hsiao, M.D., M. Saleem Ismail, M.D., Barry D. Lebowitz, Ph.D., Constantine G. Lyketsos, M.D., M.H.S.,  
J. Michael Ryan, M.D., T. Scott Stroup, M.D., David L. Sultzer, M.D., Daniel Weintraub, M.D.,  
and Jeffrey A. Lieberman, M.D., for the CATIE-AD Study Group\*

### ABSTRACT

#### BACKGROUND

Second-generation (atypical) antipsychotic drugs are widely used to treat psychosis, aggression, and agitation in patients with Alzheimer's disease, but their benefits are uncertain and concerns about safety have emerged. We assessed the effectiveness of atypical antipsychotic drugs in outpatients with Alzheimer's disease.

#### METHODS

In this 42-site, double-blind, placebo-controlled trial, 421 outpatients with Alzheimer's disease and psychosis, aggression, or agitation were randomly assigned to receive olanzapine (mean dose, 5.5 mg per day), quetiapine (mean dose, 56.5 mg per day), risperidone (mean dose, 1.0 mg per day), or placebo. Doses were adjusted as needed, and patients were followed for up to 36 weeks. The main outcomes were the time from initial treatment to the discontinuation of treatment for any reason and the number of patients with at least minimal improvement on the Clinical Global Impression of Change (CGIC) scale at 12 weeks.

#### RESULTS

There were no significant differences among treatments with regard to the time to the discontinuation of treatment for any reason: olanzapine (median, 8.1 weeks), quetiapine (median, 5.3 weeks), risperidone (median, 7.4 weeks), and placebo (median, 8.0 weeks) ( $P = 0.52$ ). The median time to the discontinuation of treatment due to a lack of efficacy favored olanzapine (22.1 weeks) and risperidone (26.7 weeks) as compared with quetiapine (9.1 weeks) and placebo (9.0 weeks) ( $P = 0.002$ ). The time to the discontinuation of treatment due to adverse events or intolerability favored placebo. Overall, 24% of patients who received olanzapine, 16% of patients who received quetiapine, 18% of patients who received risperidone, and 5% of patients who received placebo discontinued their assigned treatment owing to intolerability ( $P = 0.009$ ). No significant differences were noted among the groups with regard to improvement on the CGIC scale. Improvement was observed in 32% of patients assigned to olanzapine, 26% of patients assigned to quetiapine, 29% of patients assigned to risperidone, and 21% of patients assigned to placebo ( $P = 0.22$ ).

#### CONCLUSIONS

Adverse effects offset advantages in the efficacy of atypical antipsychotic drugs for the treatment of psychosis, aggression, or agitation in patients with Alzheimer's disease. (ClinicalTrials.gov number, NCT00015548.)

From the Keck School of Medicine, University of Southern California, Los Angeles (L.S.S., K.S.D.); the Banner Alzheimer's Institute, Phoenix, AZ (P.N.T.); Quintiles, Research Triangle Park, NC (S.M.D.); the National Institute of Mental Health, National Institutes of Health, Bethesda, MD (J.K.H.); the University of Rochester Medical Center, Rochester, NY (M.S.I., J.M.R.); the School of Medicine, University of California, San Diego, La Jolla (B.D.L.); the Department of Psychiatry, Johns Hopkins Bayview, Johns Hopkins University, Baltimore (C.G.L.); the School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill (T.S.S.); Veterans Affairs Greater Los Angeles Healthcare System, University of California, Los Angeles, Los Angeles (D.L.S.); the School of Medicine, University of Pennsylvania, Philadelphia (D.W.); and the College of Physicians and Surgeons, New York (J.A.L.). Address reprint requests to Dr. Schneider at the Keck School of Medicine, University of Southern California, 1510 San Pablo St., HCC 600, Los Angeles, CA 90033, or at [lschneid@usc.edu](mailto:lschneid@usc.edu).

\*Members of the Clinical Antipsychotic Trials of Intervention Effectiveness—Alzheimer's Disease (CATIE-AD) Study Group are listed in the Appendix.

N Engl J Med 2006;355:1525-38.

Copyright © 2006 Massachusetts Medical Society.

**Non esiste un farmaco  
migliore di un altro**

**Table 2. Medication Doses and Outcomes in the Intention-to-Treat Sample.\***

Dose and Outcome	Olanzapine Group (N=99)	Quetiapine Group (N=94)	Risperidone Group (N=84)	Placebo Group (N=139)	P Value (Overall Comparison) †
<b>Medication dose</b>					
Initial dose — mg per day					
Mean	32	34.1	07		
Range	0-10	0-100	0.5-2.5		
Last dose — mg per day					
Mean	55	56.5	1.0		
Range	0-175	0-200	0-2.0		
Discontinuation of treatment for any reason					
— no. of patients (%)	79 (80)	77 (82)	65 (77)	118 (85)	
Kaplan-Meier estimate of time to discontinuation					0.52 †
— wk					
50th percentile	81	53	74	80	
95% CI	5.1-11.6	3.6-8.1	5.0-12.0	5.0-9.3	
Comparison with placebo					
Hazard ratio	0.83	1.01	0.88	—	
95% CI †	0.62-1.11	0.75-1.36	0.64-1.20		
P value for test of a difference	0.21	0.95	0.41		
Discontinuation of treatment because					
of lack of efficacy — no. of patients (%)					
Kaplan-Meier estimate of time to discontinuation — wk					0.002 †
50th percentile	22.1	9.1	26.7	9.0	
95% CI	12.1-7.7	7.0-21.6	8.1-7.7	6.4-11.6	
Comparison with placebo					
Hazard ratio	0.51	0.81	0.61		
95% CI	0.35-0.74	0.57-1.15	0.41-0.89		
P value for test of a difference	<.0001 §	0.24	0.01 §		
Comparison with quetiapine					
Hazard ratio	0.63		0.75		
95% CI	0.41-0.96		0.49-1.16		
P value for test of superiority ¶	0.02		0.10		
Comparison of olanzapine with risperidone					
Hazard ratio	0.84				
95% CI	0.53-1.32				
P value for test of noninferiority					
Olanzapine vs. risperidone	<.0001				
Risperidone vs. olanzapine	0.01				

cantly better than placebo was then tested for noninferiority to the other antipsychotic agents. Noninferiority was concluded when the P value was less than 0.025 from a one-sided test with a margin of 2.0 (i.e., the upper limit of the 95% confidence interval [CI] for the hazard ratio was <2.0).

Two atypical antipsychotic drugs were considered to be equivalent if the CI was contained within 0.5 and 2.0 (i.e., each drug was noninferior to the other); this was a broad equivalence margin for noninferiority.

Finally, any antipsychotic drug found to be non-

**BPSD restano uno dei principali problemi su cui incentrare gli sforzi medici e assistenziali**

# **Risultati**

**1. ospedalizzazioni**

**2. forme rare**

**(in collaborazione con**

**Laboratorio di Neurogenetica**

**Istituto Neurologico Carlo Besta)**

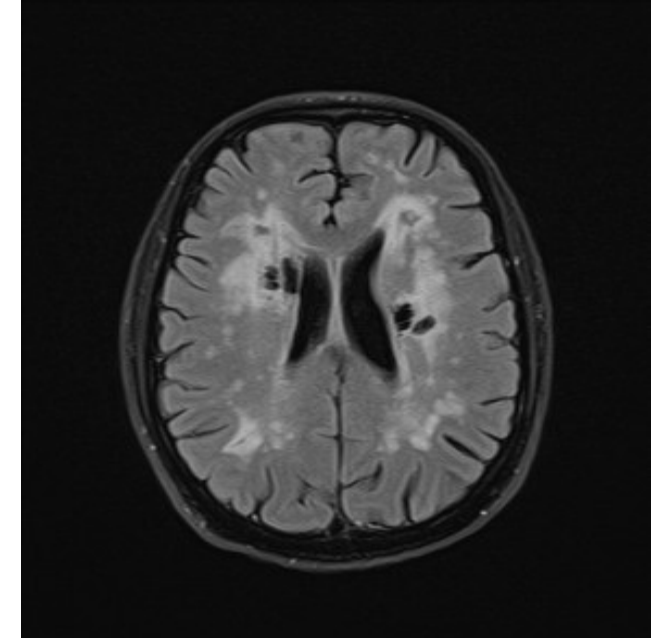
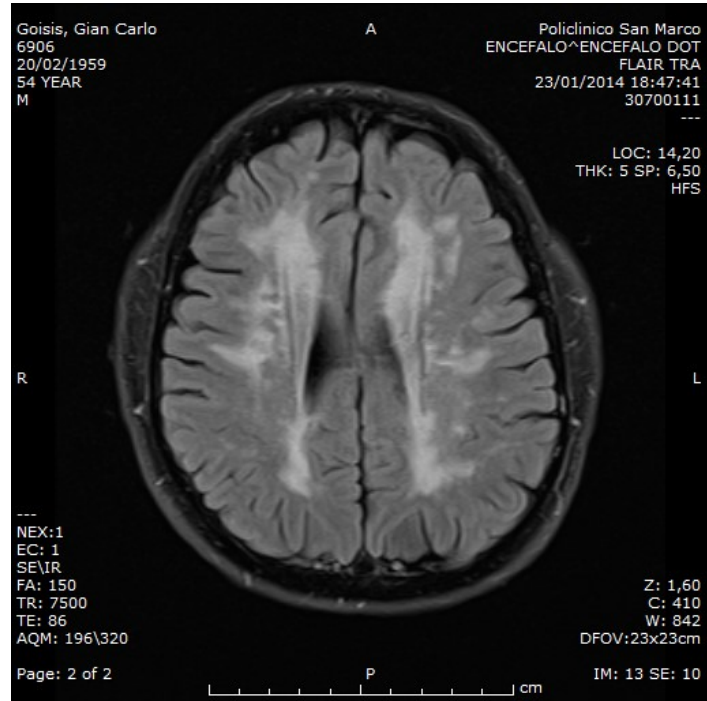
# **Policlinico San Marco**

**2019 – Centro Regionale per  
CADASIL (RF0310)**

**2020 – Centro Regionale per  
CHOREA DI HUNTINGTON  
(RF0080)**



# CADASIL



**Policlinico San Marco**

**CADASIL**

**Cerebral Autosomal Dominant  
Arteriopathy with Subcortical Infarcts  
and Leukoencephalopathy**

**Gene notch-3 – Cromosoma 19  
fattore di crescita dell'endotelio**

**P. Amarenco & M.G. Bousser 1995**

**la malattia conduce a demenza**

# Policlinico San Marco

## chorea di Huntington

THE  
MEDICAL AND SURGICAL REPORTER.  
No. 789.] PHILADELPHIA, APRIL 13, 1872. [Vol. XXVI.—No. 15.  
ORIGINAL DEPARTMENT.

Communications.

ON CHOREA.

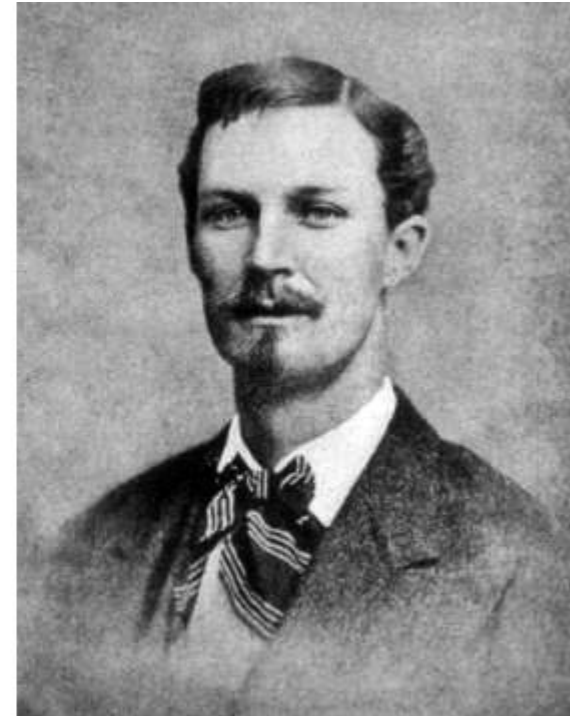
By GEORGE HUNTINGTON, M. D.,  
Of Pomeroy, Ohio.

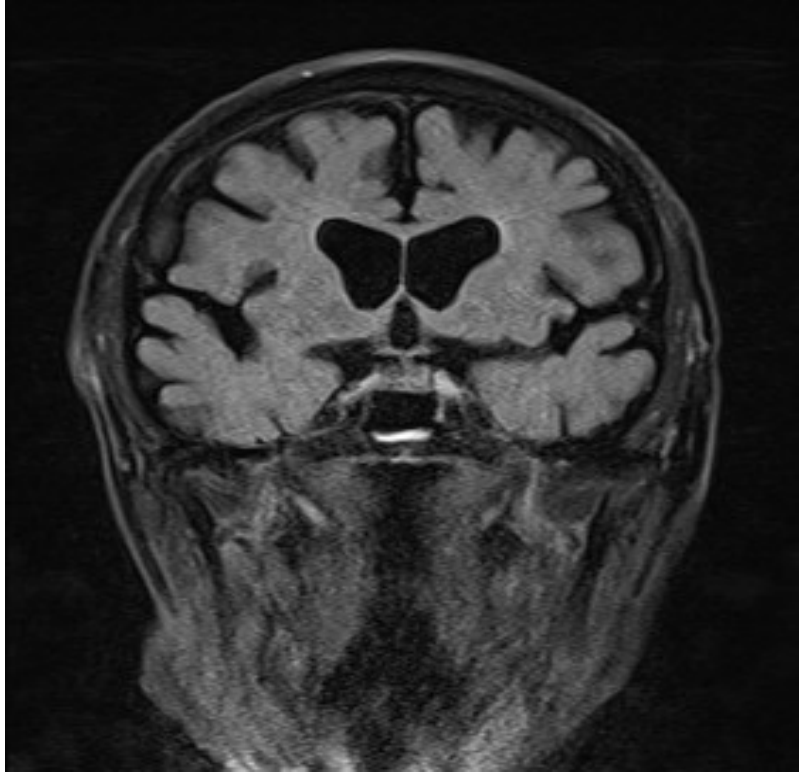
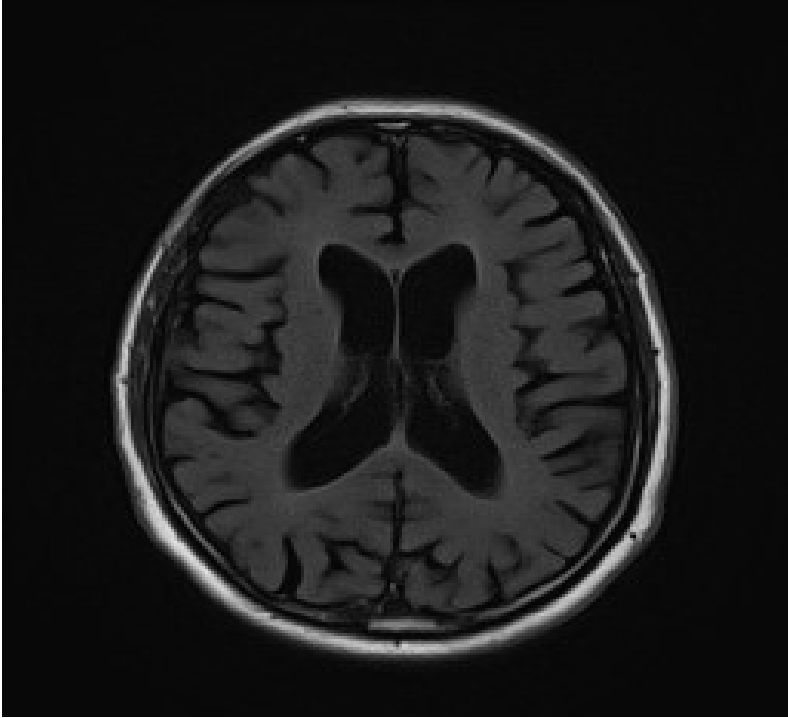
Essay read before the Meigs and Mason Academy of Medicine at Middleport, Ohio, February 15, 1872

Chorea is essentially a disease of the nervous system. The name "chorea" is given to the disease on account of the *dancing* propensities of those who are affected by it, and it is a very appropriate designation. The disease, as it is commonly seen, is by no means a dangerous or serious affection, however distressing it may be to the one suffering from it, or to his friends. Its most marked and char-

The upper extremities may be the first affected, or both simultaneously. All the voluntary muscles are liable to be affected, those of the face rarely being exempted.

If the patient attempt to protrude the tongue it is accomplished with a great deal of difficulty and uncertainty. The hands are kept rolling—first the palms upward, and then the backs. The shoulders are shrugged, and the feet and legs kept in perpetual motion; the toes are turned in, and then everted; one foot is thrown across the other, and then suddenly withdrawn, and, in short, every conceivable attitude and expression is assumed, and so varied and irregular are the motions gone through with, that a complete description of





# CHOREA DI HUNTINGTON

- Caratteristiche principali
  - Declino cognitivo di tipo “psicotico”; disturbo della memoria ‘secondario’; preminenza di disturbi di attenzione e di ansia libera
  - Presenza di movimenti involontari asincroni, bruschi, ingravescenti nel tempo
  - Un genitore con problemi analoghi
- Caratteristiche aggiuntive
  - Frequenza 3-5 per centomila della popolazione generale
  - Malattia letale in circa 15-20 anni
  - Malattia autosomica dominante
  - Proteina Huntingtonina ( proteina nucleare )
  - Anomalia riconosciuta sul braccio lungo del cromosoma 4
  - Malattia della poliglutamina, codificata CAG
  - Test genetico
  - Terapie

**Policlinico San Marco (2022)**

**CADASIL**

**N = 19**

**CHOREA DI HUNTINGTON**

**N = 8**

# **Compiti**

**assistenza e cure dei pazienti**

**consiglio genetico per i familiari**

**sostegno dei familiari**

**ricerca**

***Grazie per l'attenzione***

