I DISTURBI DEPRESSIVI NELLA MALATTIA CEREBROVASCOLARE

Mariagiovanna Cantone

18 Novembre 2017

Subsyndromal depression in the elderly: underdiagnosed and undertreated

VanItallie TB. 2005

In USA 35 milioni di soggetti di età ≥ 65 anni

- 5.7% depressione maggiore o distimia
- 14.3 % “subsyndromal” depressione

Alexopoulos GS. 2000

- ↑ incidenza dopo gli 80 anni

Lavretsky H et al. 2003

Contents lists available at ScienceDirect

Journal of Affective Disorders

journal homepage: www.elsevier.com/locate/jad

Review

Age- and gender-specific prevalence of depression in latest-life – Systematic review and meta-analysis

24 studi

Prevalenza depressione maggiore:

75+: **F 4-10.3%** *vs* M 2.8-6.9%

85+: **F 3.8-11.1%** *vs* M 2.1-5.1%

Luppa et al. 2012

Le donne hanno un rischio maggiore di depressione anche in età avanzata

Cole and Dendukuri 2003

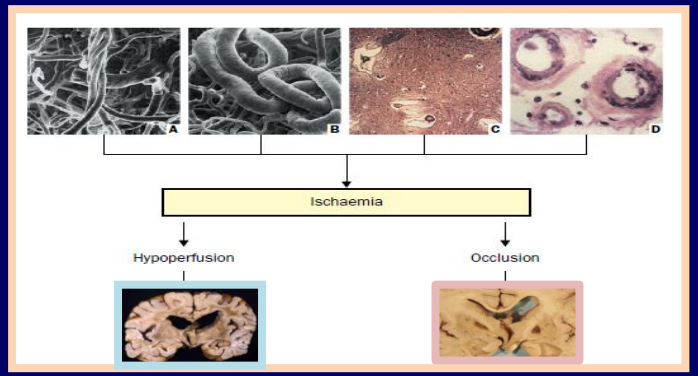
Riedel-Heller et al. 2006

La malattia cerebrovascolare sottocorticale ed il declino cognitivo nell'età anziana

- 74% malattia dei piccoli vasi
- 18% malattia dei grandi vasi
- 8% entrambi

Staekenborg SS 2008

The enigma of vascular cognitive disorder and vascular dementia



Jellinger KA 2007

Leukoaraiosis and Disability in the Elderly study (LADIS)

Sia le lacune che le WMH influenzano le funzioni cognitive

La severità delle WMH predice in modo indipendente il declino cognitivo

van der Flier WM et al. Stroke 2005
Verdelho A et al. Neurology 2010

Dalla cognizione all'umore

Depression in Late Life: NIH Consensus Statement

Major public health problem

NOT a normal consequence of aging

Lebowitz BD et al JAMA 1997

Quantification of the risk of post stroke depression: the Italian multicenter observational study DESTRO.

Paolucci S et al. DESTRO Study Group. 2005

The “Vascular depression” hypothesis.

Clinically Defined Vascular Depression

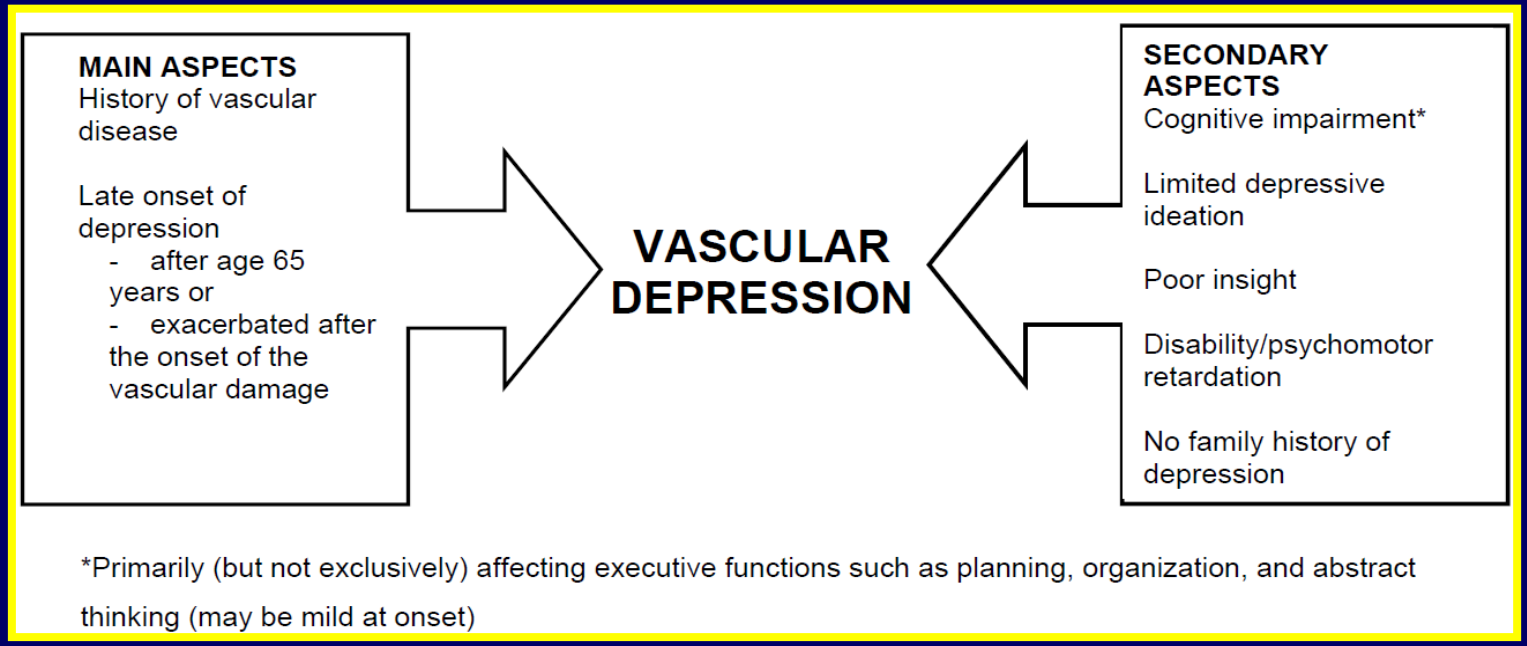
George S. Alexopoulos, M.D., Barnett S. Meyers, M.D., Robert C. Young, M.D., Tatsu Kakuma, Ph.D., David Silbersweig, M.D., and Mary Charlson, M.D.

Frequency of depression correlates with cerebrovascular risk factors

Mast BT et al 2004

Già nel 1905 nel suo trattato “Gli stati depressivi in età avanzata”, Gaupp fu il primo a descrivere il possibile legame tra l'accumulo di lesioni vascolari e la depressione introducendo il concetto di “Malattia depressiva arteriosclerotica”.

Clinically Defined Vascular Depression

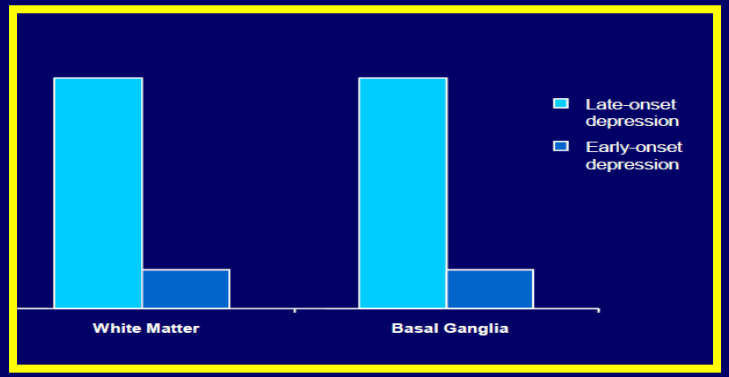


Alexopoulos GS et al 2005

MRI-Defined Vascular Depression

K. Ranga Rama Krishnan, M.D., Judith C. Hays, R.N., Ph.D., and Dan G. Blazer, M.D., Ph.D.

Krishnan KRR et al. 1997



Figiel GS et al. 1991

White matter hyperintensities in late life depression: a systematic review

WMH più frequenti e severe nei LOD vs EOD (OR 4)

Localizzazione frontale e in minor misura temporale

Hermann LL et al. 2007

MRI-Defined Vascular Depression

La gravità delle WMLs predice in modo indipendente la comparsa di sintomi depressivi a 2 e a 3 anni

Teodorczuk A et al. LADIS Study group 2010

Subcortical Ischemic Depression (SID)

"Clinical characteristic of magnetic resonance imaging-defined subcortical ischemic depression"

Krishnan KRR 2004

"Psychiatric disease in the twenty-first century: the case of subcortical ischemic depression"

Taylor 2006

↓

I PAZIENTI CON DEPRESSIONE VASCOLARE SONO A RISCHIO DI SVILUPPARE UN DECLINO COGNITIVO SU BASE VASCOLARE

Diniz BS et al. 2013

Vascular Depression: Proposed Criteria

Presenza di un disturbo depressivo maggiore

+

"Sufficienti" segni di compromissione cerebrovascolare alle neuro-immagini

Steffens 2004

Non esistono criteri universalmente accettati e non ci sono dati epidemiologici sulla VaD nella popolazione generale

Aizenstein et al. BMC Medicine 2016
Vascular depression consensus report – a critical update

NIH Public Access
Author Manuscript
Mol Psychiatry. Author manuscript; available in PMC 2014 March 01.

Published in final edited form as:
Mol Psychiatry. 2013 September ; 18(9): 963–974. doi:10.1038/mp.2013.20.

The Vascular Depression Hypothesis: Mechanisms Linking Vascular Disease with Depression

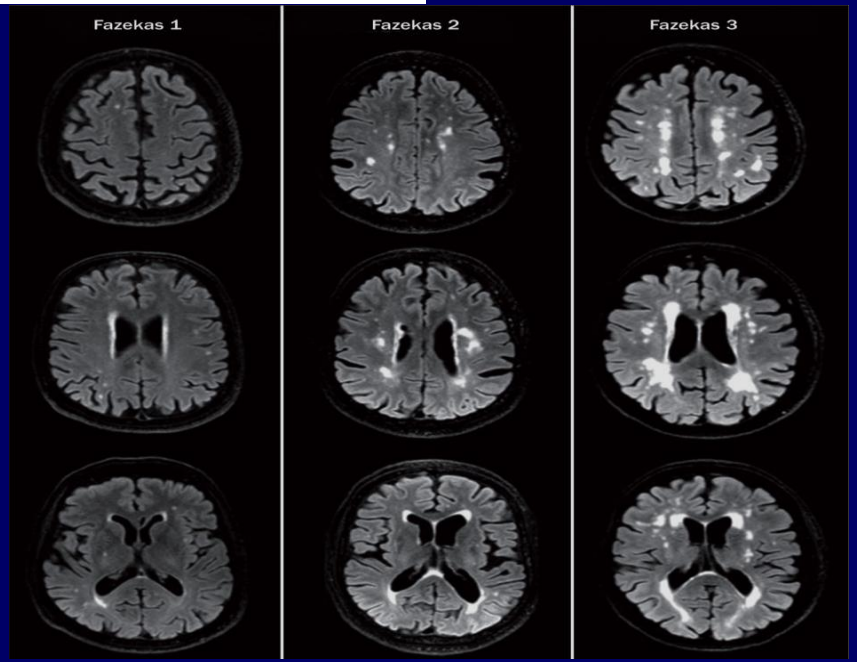
Warren D. Taylor, MD, MHSc[1], Howard J. Aizenstein, MD, PhD[2], and George S. Alexopoulos, MD[3]

Taylor WD, et al.
Mol Psychiatr 2013

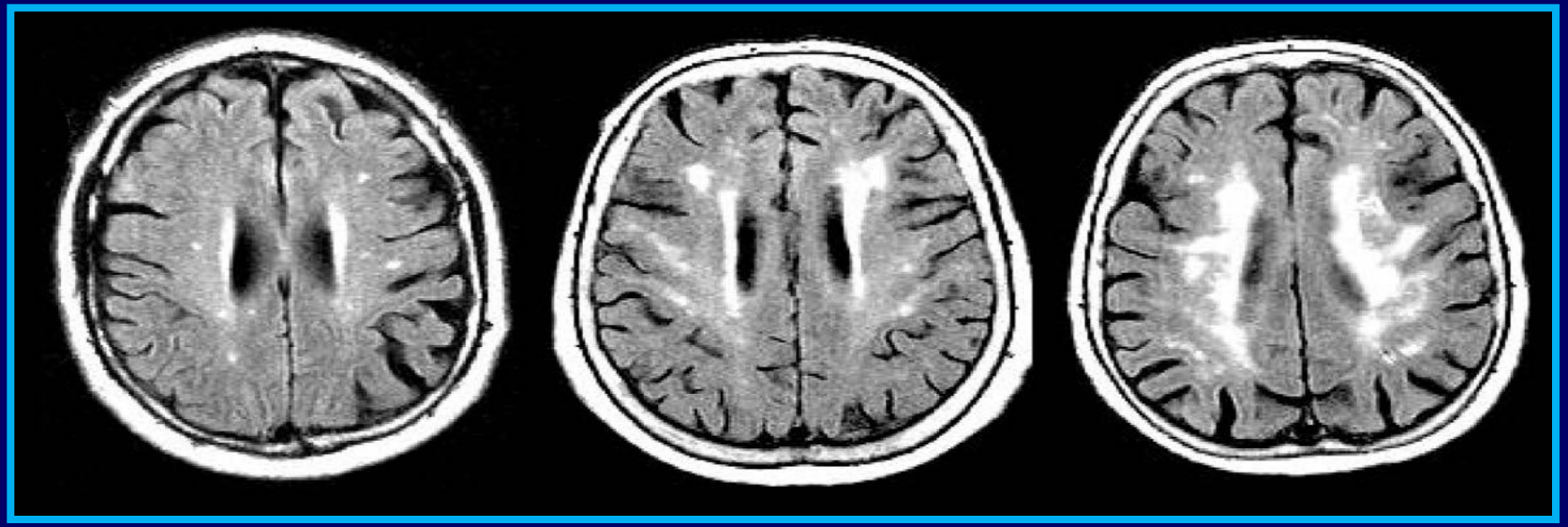
Bella R, et al.
Gerontology 2010

“Cerebrovascular disease may predispose, precipitate, or perpetuate geriatric depressive syndrome.”

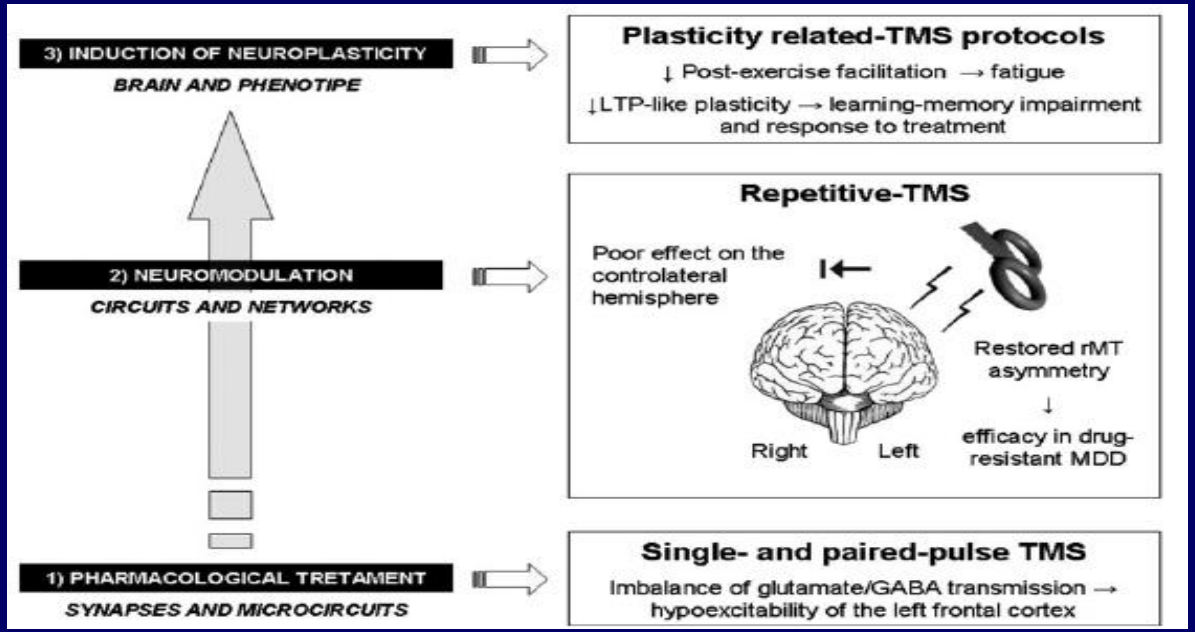
La progressione delle iperintensità della sostanza bianca e dei deficit cognitivi predicono un decorso peggiore dei sintomi depressivi e possono riflettere il peggiormento della patologia vascolare



Studio dell’eccitabilità corticale nei pazienti con Depressione Vascolare



Cortical Plasticity in Depression: A Neurochemical Perspective From Transcranial Magnetic Stimulation



Cantone et al. 2017

International Journal of Psychophysiology 82 (2011) 248–253

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International Journal of Psychophysiology

journal homepage: www.elsevier.com/locate/ijpsycho

Motor cortex excitability in vascular depression

TMS parameters obtained from the hemispheres in the VD group. Data are expressed as mean ± S.D.

	Left	Right	Wilcoxon test	
			T	p<
rMT	46.9 ± 10.61	46.1 ± 10.71	10.5	0.155
CSP	68.9 ± 25.56	79.5 ± 40.24	25.0	0.799
CMCT	5.8 ± 0.98	5.9 ± 0.74	22.0	0.575
A ratio	0.4 ± 0.11	0.5 ± 0.12	24.0	0.721

rMT = resting motor threshold (%); CSP = cortical silent period (ms); CMCT = central motor conduction time (ms); A ratio = amplitude ratio.

Dato neurofisiologico

VaD non ha il pattern di eccitabilità dei pazienti con EOD

Bella R. et al 2011

Concerto et al. BMC Psychiatry 2013, 13:300
http://www.biomedcentral.com/1471-244X/13/300

BMC Psychiatry

RESEARCH ARTICLE Open Access

Different patterns of cortical excitability in major depression and vascular depression: a transcranial magnetic stimulation study

Table 2 Demographic and neuropsychological characteristics of patients and controls

Variable	VD	MD	Control	Kruskal Wallis ANOVA	
				H(2.33)	p-value
Age	67.72 ± 3.29	57.18 ± 7.12	67.36 ± 3.75	12.20	0.002*
Age at onset	62.27 ± 5.04	27.82 ± 7.32	–	–	–
Education	7.91 ± 5.75	12.18 ± 5.98	9.64 ± 5.08	3.25	0.197
MMSE	26.62 ± 1.58	27.53 ± 2.03	28.36 ± 1.85	5.49	0.064
ADL	5.82 ± 0.40	5.81 ± 0.6	6 ± 0	2.00	0.366
IADL	7.54 ± 1.21	7.36 ± 1.027	7.82 ± 0.4	1.39	0.498
HAM-D17	15.91 ± 7.23	20.27 ± 4.41	4.73 ± 2.41	23.02	0.00001*
SCID-I	2.00 ± 0.00	2.00 ± 0.00	–	–	–
StroopT	45.70 ± 17.88	34.09 ± 14.37	26.6 ± 11.29	6.82	0.0330*
StroopE	2.38 ± 2.71	1.36 ± 1.63	0.94 ± 1.14	1.98	0.370
FAB	15.24 ± 2.33	15.12 ± 1.61	16.5 ± 1.78	3.17	0.204

VD = vascular depression; MD = major depression; MMSE = Mini Mental State Examination; ADL = Activity of Daily Living; IADL = Instrumental Activity of Daily Living; HAM-D17 = 17-items Hamilton Depression Rating Scale; SCID-I = Structured Clinical Interview for DSM-IV Axis I Disorders; Stroop T = Stroop Color-Word Test interference score; Stroop E = Stroop Color-Word Test interference number of errors; FAB = Frontal Assessment Battery. Data are expressed as mean ± SD and were analyzed using Kruskal-Wallis ANOVA. * = $p < 0.05$.

Concerto *et al. BMC Psychiatry* 2013, **13**:300
http://www.biomedcentral.com/1471-244X/13/300

BMC Psychiatry

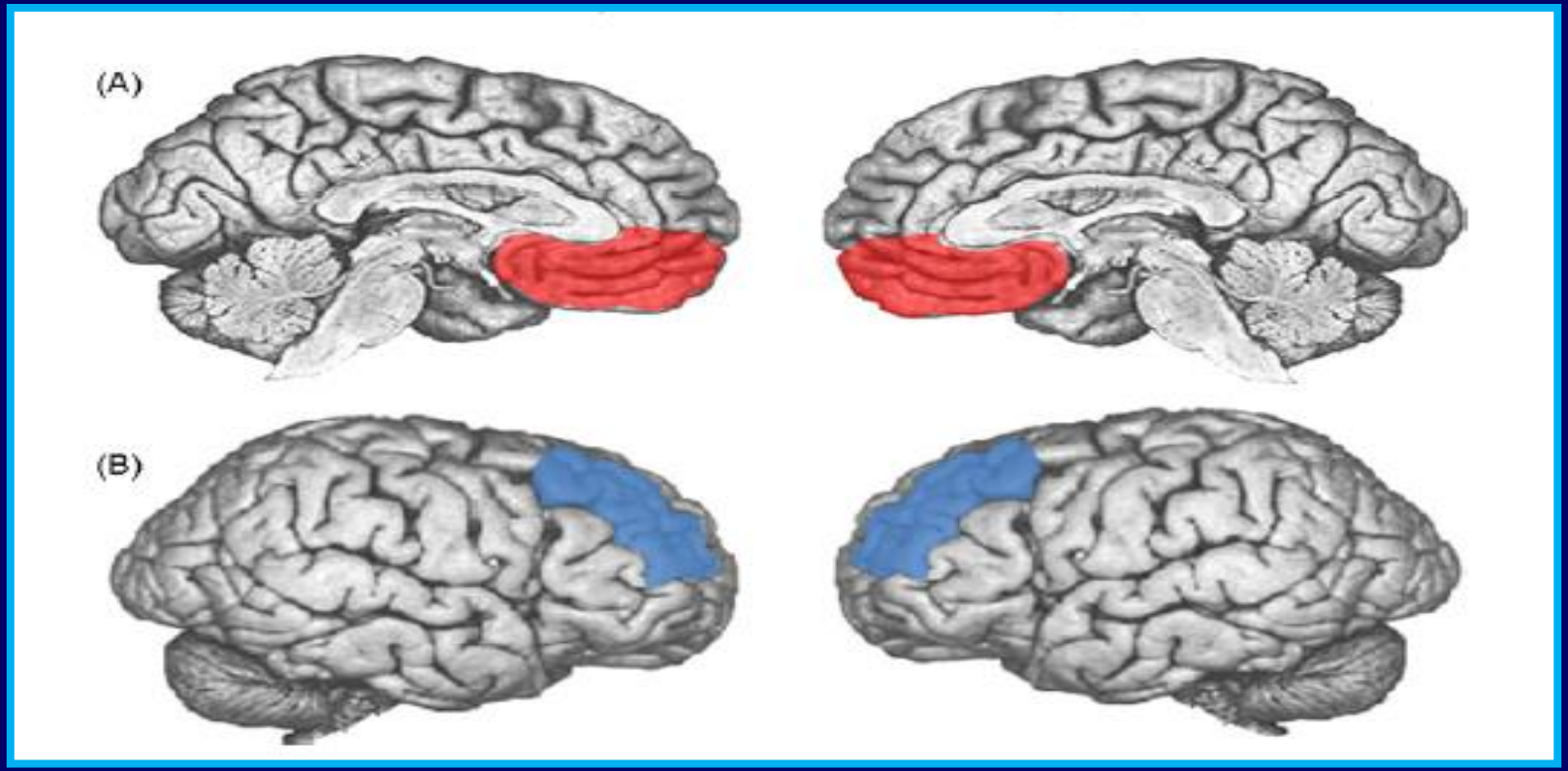
RESEARCH ARTICLE Open Access

Different patterns of cortical excitability in major depression and vascular depression: a transcranial magnetic stimulation study

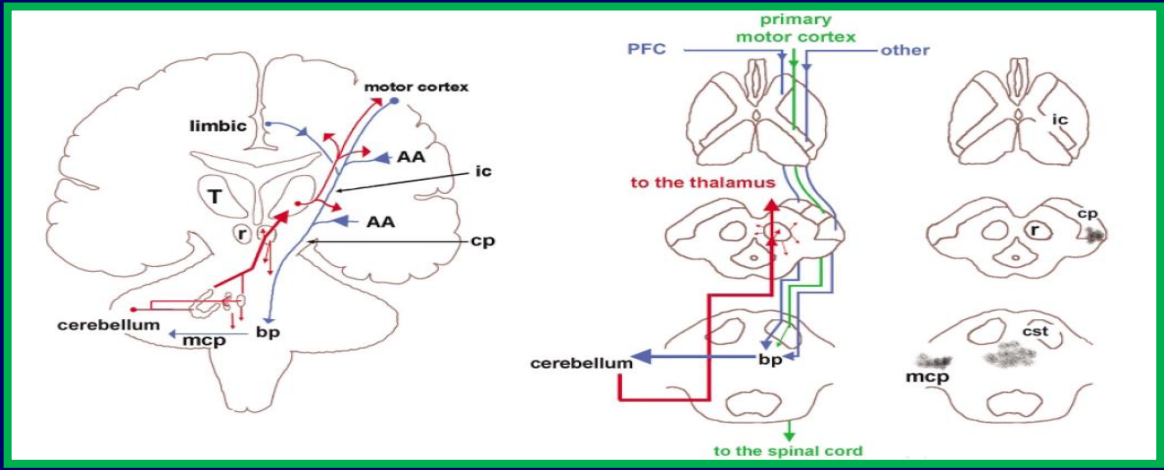
The resting motor threshold in patients with MD was significantly higher in the left hemisphere compared with the right ($p < 0.05$), and compared with the VD patients and controls.
The cortical silent period was bilaterally prolonged in MD patients compared with VD patients and controls, with a statistically significant difference in the left hemisphere ($p < 0.01$).

The functional neuroanatomy of depression: Distinct roles for ventromedial and dorsolateral prefrontal cortex

Michael Koenigs[a,*], Jordan Grafman[b]



Pathological laughter and crying
A link to the cerebellum



Parvizi G et al. 2001

Pathological alterations of the climbing fibres of the cerebellum in vascular dementia: a Golgi and electron microscope study

Baloyannis SJ. 2007

Prevenzione ed opzioni terapeutiche

Clinical Presentation and Outcome of Geriatric Depression in Subcortical Ischemic Vascular Disease

Variable	Remitted (n = 26)	Nonremitted (n = 63)	p
Age, years	68.1 ± 7.1	71.4 ± 7.4	NS
Years of education	5.9 ± 3.5	6.7 ± 3.8	NS
Subjects with onset at			
<65 years	9 (45)	11 (55)	NS
≥65 years	17 (24.6)	52 (75.4)	
MMSE	28.1 ± 1.8	26 ± 1.8	<0.001
17-item HDRS	10.2 ± 2.9	16.3 ± 4.5	<0.001
ADL	6 ± 0.2	5.8 ± 0.4	<0.05
IADL	7.9 ± 0.3	7.7 ± 0.6	NS
Stroop color-word test	24 ± 15.3	53.6 ± 25.4	<0.001
Hypertension	19 (73.1)	55 (87.3)	NS
Neurological signs	6 (23.1)	29 (46)	<0.05
DWML	11 (42.3)	45 (71.5)	<0.05

Il trattamento farmacologico classico risulta inefficace in 2/3 dei pazienti

Bella R. et al 2010

Transcranial Magnetic Stimulation for the Treatment of Depression in Neurologic Disorders

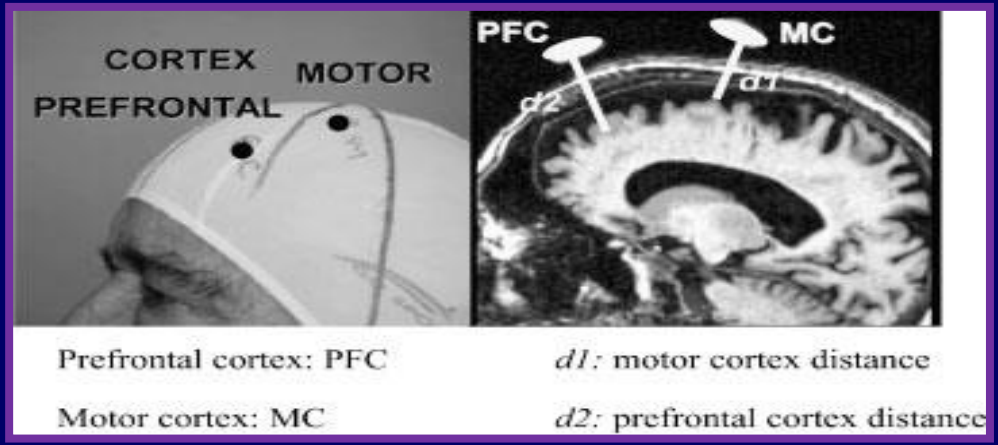
Felipe Fregni, MD, PhD, and Alvaro Pascual-Leone, MD, PhD*

Current Psychiatry Reports 2005, 7:381–390

Depression is commonly associated with neurologic disorders. Although depression in neurologic conditions often is associated with a negative impact on quality of life, it frequently is poorly managed. Some factors, such as a multidrug regimen, lack of efficacy, and side effects of antidepressants may explain why depression is not adequately treated in patients with neurologic disorders. Therefore, this population needs new approaches for depression treatment, and repetitive transcranial magnetic stimulation (rTMS) may be one of them because it has been shown to be effective for the treatment of depression alone and depression in certain neurologic diseases such as Parkinson's disease and stroke. rTMS is a noninvasive, focal, and painless treatment associated with few, mild side effects. It may be effective in the treatment of neurologic diseases such as Parkinson's disease, stroke, and epilepsy. In this paper, we discuss the potential risks and benefits of rTMS treatment for depression in Parkinson's disease, epilepsy, stroke, multiple sclerosis, and Alzheimer's disease. Lastly, a framework that includes the parameters of stimulation (intensity, frequency, number of pulses, and site of stimulation) for the treatment of depression in neurologic diseases is proposed.

Nel 2008, la Food and Drug Administration statunitense ha approvato la Stimolazione Magnetica Transcranica ripetitiva (rTMS) nel trattamento della depressione maggiore farmaco-resistente.

Attualmente anche in Italia la tecnica è utilizzata in alcuni centri con questa indicazione.



Antidepressant efficacy and cognitive effects of repetitive transcranial magnetic stimulation in vascular depression: an open trial

Fabre I. et al. 2004

Treatment of Vascular Depression Using Repetitive Transcranial Magnetic Stimulation

Jorge RE. et al. 2008

Vascular Depression: An Archetypal Neuropsychiatric Disorder

"It teaches neurologist to become aware of the localizing value of behavioral manifestations and it teaches psychiatrists the importance of organic features such as gait alterations, disturbed sleep patterns, loss of sphincter control, and cognitive decline for the correct diagnosis of depression and other disorders of mood, behavior and cognition in the elderly".

Arciniegas DB 2006

Roman CG 2006

Grazie per l'attenzione