

V° CONGRESSO NAZIONALE PRISMA

IPOVISIONE DA POLO A POLO:
AGGIORNAMENTI SU ASPETTI OTTICI E SENSORIALI

IL NEGLECT

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CRRNC
Cura e Ricovero e Riabilitazione
Neurofunzionale e Cognitiva

Definizione

Difficoltà o incapacità di rilevare, rispondere, orientarsi consapevolmente verso stimoli che vengono presentati nello spazio contralaterale alla lesione quando il deficit non può essere attribuito a disturbi sensoriali o motori

(Heilman and Valenstein, 1979)

video

Incidenza del Neglect

Reasons for Variability in the Reported Rate of Occurrence of Unilateral Spatial Neglect After Stroke
Audrey Bowen, Kate McKenna and Raymond C. Tallis
Stroke 1999;30:1196-1202

American Journal of Physical Medicine & Rehabilitation
Stroke 1999;30:1196-1202

HEMINEGLECT IN ACUTE STROKE: INCIDENCE AND PROGNOSTIC IMPLICATIONS: The Copenhagen Stroke Study
Pedersen, Palle M. MA¹, Jørgensen, Henrik S. MD, Nakayama, Hirofumi MD, PhD, Raastad, Hans O. MD, Olsen, Tom S. MD, PhD

The incidence of hemispatial neglect varies between 8 and 95% in individuals with stroke...
...with a reasonable estimate of 29%

TRA GLI STUDI PRESENTI IN LETTERATURA ESISTE UN'ALTA VARIABILITÀ DELL'INCIDENZA DEL NEGLECT

- Diverse definizioni di neglect
- Diverse fasi post-stroke
- Utilizzo di test differenti
- Utilizzo di test non sensibili

Neglect è disabilità

The Role of Unilateral Spatial Neglect in Rehabilitation of Right Brain-Damaged Ischemic Stroke Patients: A Matched Comparison
Stefano Paulucci, MD, Gabriella Antonucci, PhD, Maria Grazia Grassi, MD, PhD, Luigi Pizzanigola, PhD

Baseline (admission)	UN*	UN*	
Age (yr; mean ± SD)	69.67 ± 9.60	69.50 ± 9.51	
DAI (r; mean ± SD)	38.42 ± 17.06	38.98 ± 16.40	
Gender (male)	47.2%	48.3%	
MCA lesions	31.5%	83.1%	
Lacunar lesions	30.3%	5.8%	
Vasculobulbar lesions	10.1%	4.5%	
Lesions in uncertain areas	29.2%	6.7%	
Comorbidities	77%	87%	
Incidence	15.7%	44.3%	
CNS [†] score at admission (mean ± SD)	6.98 ± 1.61	5.40 ± 1.46	
Barthel Index [‡] score at admission (mean ± SD)	40.17 ± 22.58	22.53 ± 19.20	
RMF [§] score at admission (mean ± SD)	3.16 ± 3.10	1.35 ± 2.13	

After rehabilitation (discharge)	UN*	UN*	p
Dropouts	9%	6.7%	NS
Barthel Index score at discharge (mean ± SD)	71.67 ± 23.08	44.94 ± 25.64	<.001, $\eta^2 = 6.37$
RMF score at discharge (mean ± SD)	8.16 ± 2.82	4.18 ± 3.05	<.001, $\eta^2 = 6.18$
Effectiveness on Barthel Index (mean ± SD)	64.12 ± 28.82	30.92 ± 24.26	<.001, $\eta^2 = 31.32$
Effectiveness on RMF (mean ± SD)	43.43 ± 24.82	20.51 ± 20.06	<.001, $\eta^2 = 34.45$
Efficiency on Barthel Index (mean ± SD)	.39 ± .27	.18 ± .19	<.001, $\eta^2 = 32.37$
Efficiency on RMF (mean ± SD)	.37 ± .26	.22 ± .23	<.001, $\eta^2 = 40.21$
Low response on Barthel Index	11.1%	32.5%	.001, $\eta^2 = 10.87$
Low response on RMF	6.2%	26.5%	<.001, $\eta^2 = 12.32$
High response on Barthel Index	29.6%	7.2%	<.001, $\eta^2 = 13.94$
High response on RMF	35.8%	7.2%	<.001, $\eta^2 = 19.94$
LOS (d; mean ± SD)	81.26 ± 37.62	116.79 ± 40.64	<.001, $\eta^2 = 22.60$
Discharge home	95.1%	81.0%	<.01, $\eta^2 = 6.90$
Incidence at discharge	4.9%	20.5%	<.001, $\eta^2 = 8.87$

Abbreviation: NS, not significant.

Correlati neuroanatomici del Neglect

Review Correlati Anatomici NSU

Singole aree specifiche dell'emisfero destro:
Lobo Parietale Inferiore (BA39,BA40)
Lobo Frontale (BA44, BA6)
Giro Temporale Superiore

Area	N° studi
Frontale	7
Temporale	8
Parietale	12
Occipitale	1
Insula/Sost.Ociana	2
Altra	6

Altra possibile interpretazione delle basi neurali del neglect:
Sindrome da disconnessione = mancata interazione di reti neurali di diversi distretti cerebrali funzionalmente correlati tra loro (es. circuito fronto-parietale)

Halgan et al., 2003
Bartolomeo et al., 2007

Manifestazioni del Neglect

- ✓ Lascia cibo nella metà sinistra del piatto
- ✓ Collide con ostacoli
- ✓ Difficoltà di lettura
- ✓ Disorientamento topografico
- ✓ Inadeguato allineamento posturale
- ✓ Omissione di stimoli presenti a sinistra (anche rappresentazionale)

Manifestazioni del Neglect

Journal of Clinical Neuropsychology, 2008, Vol. 21, No. 4, 388-400

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Coding of Far and Near Space During Walking in Neglect Patients

Anna Berli
Università di Torino

Nicola Smania
Ospedale Bergamosa



Figure 6. The average walking trajectories of Patient AB in the horizontal plane are shown. The graphical representation agrees with the previous plots about normal trajectories. The right bisection error is evident, particularly for the farthest starting point, along with the rectilinear shapes of the trajectories.

Manifestazioni del Neglect



compiti di visual-search



compiti di copia



compiti di rappresentazione mentale

Livello di elaborazione nel Neglect



ELABORAZIONE IMPLICITA NON COSCIENTE



Halligan & Marshall, 1988

Neglect: la valutazione



Test di Albert



Test delle Campanelle



Line bisection (BIT)



Copie disegni (BIT)



Disegno spontaneo

punteggio patologico = neglect
punteggio non patologico = non neglect ??

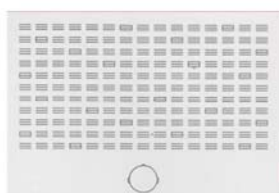

Neglect e salienza percettiva degli stimoli

Journal of Clinical Neuropsychology, 2008, Vol. 21, No. 4, 388-400 (1997)

Articolo no. BEEF0012

Influence of Stimulus Salience and Attentional Demands on Visual Search Patterns in Hemispatial Neglect

Salvatore Aglioti,* Nicola Smania,† Cristina Barbieri,‡ and Maurizio Corbetta§





Oltre i "paper and pencil" test

Visuospatial asymmetry and non-spatial attention in subacute stroke patients with and without neglect

Marlies E. van Kessel^{1,2}, Jite J.W. van Nes¹, Wiebo H. Brouwer¹, Alexander C.H. Geurts^{1,2} and Luciano Fasotti^{1,3}

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ABSTRACT

Asymmetry in performance and an association with non-lateralized attention are often mentioned as two important aspects of the clinical manifestation of visuospatial neglect. Both these aspects were investigated in 21 left (LST) and 18 right hemisphere (RST) stroke patients and in 30 healthy subjects. The letter and star cancellation subtests of the Behavioral Inattention Test (BIT) and a computerized visual reaction time task (CVRT) with stimuli presented either left, central or right in extrapersonal space were administered. In LST patients, the calculation of BIT asymmetry scores allowed a better distinction between patients with and without neglect than raw reaction times. However, in RST patients, raw and asymmetry scores led to similar classifications. In the CVRT, raw and asymmetry scores for the number of reactions did not differ between patients and controls. This, the comparison of asymmetry scores for cancellation did not substantially refine the diagnosis of neglect. On the other hand, more patients were classified as neglect patients by using CVRT reaction time (RT) asymmetry scores than by using BIT or CVRT reaction times. Individual RTs were almost as consistent of general, non-lateralized attention. The calculated RTs of the LST and RST groups did not differ from the healthy subjects' lateral RTs. However, within the RST group, patients with both RT asymmetries and RT scores above cut-off level showed larger ipsilesional RTs than patients with defective RT asymmetries but normal RT scores. This suggests the idea of an interaction between lateralized and non-lateralized attentional components in neglect, in which the presence of general attentional deficits exacerbates the severity of neglect symptoms. RT tasks may contribute to the detection of asymmetries in visuospatial attention in patients with unilateral neglect symptoms, who might otherwise not be detected by paper-and-pencil tasks employing intact general attention.



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Neglect: la valutazione

Quale sistema di coordinate di riferimento è danneggiato?



NEGLECT EGOCENTRICO
(centrato sul soggetto)

destra e sinistra corrispondono a destra e sinistra del campo visivo paziente

NEGLECT ALLOCENTRICO
(centrato sull'oggetto)

destra e sinistra corrispondono a destra e sinistra dell'oggetto

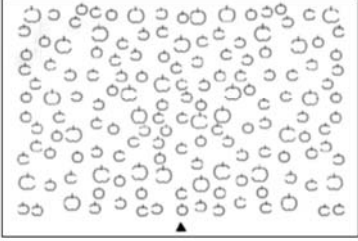
Neglect: la valutazione

Neurosci
DOI: 10.1007/s10741-013-2088-2

ORIGINAL ARTICLE

Italian standardization of the Apples Cancellation Test

Mauro Mascione · S. Bonaldi · D. Capitani · W. L. Bickerton · G. W. Humphreys · A. Di Tanti · M. Zangolini · G. Galardi · M. Caputo · S. De Pellegrin · A. Angelini · B. Bartalini · M. Bartolo · M. C. Carbonelli · P. Genovese · S. Spicciardi · A. Castiglioni · P. Zoccolotti · G. Antonietti



Neglect: la valutazione

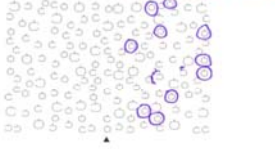


Fig. 3 Performance of V.D. on the Apples Test. Note the presence of omissions and the absence of commission errors (egocentric neglect)




Fig. 4 Performance of N.C.A. on the Apples Test. N.C.A. made several commission errors on the left but made only one omission error (allocentric neglect)

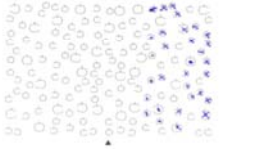



Fig. 5 Performance of C.M.C. on the Apples Test. Note the presence of both omissions and commission errors indicative of a mixed disorder (allocentric and egocentric)

Neglect: la valutazione

- Valutare i diversi sistemi di rappresentazione dello spazio (personale, peripersonale, extrapersonale)
- Utilizzare prove di varia difficoltà (distrattori, disposizione, numerosità)
- Utilizzare prove che permettano di distinguere tra neglect egocentrico e neglect allocentrico
- Utilizzare prove che tengano in considerazione il **tempo** di elaborazione dello stimolo e non semplicemente la sua rilevanza
- Effettuare anche una valutazione funzionale/ecologica

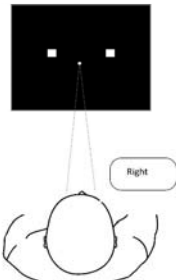


Molti test (non 1, non 2, non 3) fanno una VALUTAZIONE!


Estinzione visiva

Visual extinction is a **spatio-temporal** disorder of visual awareness specifically observed under conditions of stimulus competition

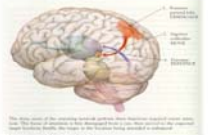
Confrontation task




Patogenesi: ipotesi attenzionali



Heilman, 1979

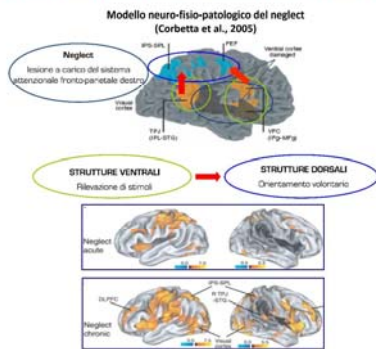


Posner et al., 1982

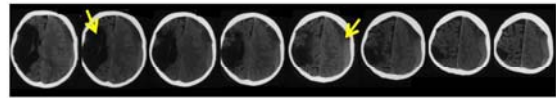


Kinsbourne, 1987

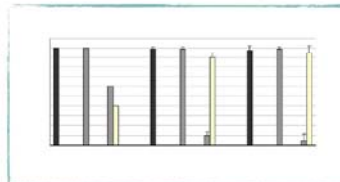
Patogenesi: ipotesi squilibrio interemisferico



Patogenesi: ipotesi squilibrio interemisferico

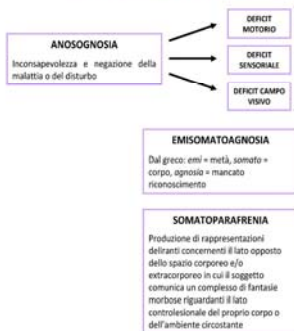


Performance ad un test di attenzione visuo-spaziale



T1: performance 209 mesi dopo l'ictus.
 T2: performance 1-2 mesi dopo l'ematoma sottocorticale centrale.
 T3: performance 4-5 mesi dopo l'ematoma

Disturbi associati



Emianopsia VS Neglect

Difficoltà nella guida, nella lettura e nella "navigazione"



movimenti di occhi, testa e corpo al fine di compensare il deficit	COMPORTEMENTO VISIVO DI ESPLORAZIONE	deficit di orientamento verso il lato controlaterale
nella norma	DISEGNO SPONTANEO	(suo essere) patologico
si [mancata consapevolezza nel caso in cui il paziente emianopico associato a neglect e lesioni che si estendono a livello parietale e/o frontale]	CONSAPEVOLEZZA	no [anosognosia]
performance "a taglio" in entrambi gli occhi	CAMPO VISIVO	performance dissimile tra i due occhi e non marcatamente "a taglio"
eccentrico	ESTINZIONE VISIVA	presente
esplorazione anche dell'emicampo visivo controlaterale [anche se in maniera disorganizzata]	MOVIMENTI SACCADICI	esplorazione maggiore o esclusiva dell'emicampo visivo ipsilaterale
corteccia visiva [lobo occipitale], vie visive [radiazioni ottiche]	SEDE LESIONE	corteccia parietale, parieto-temporale, fronto-parietale
recupero limitato e parziale	OUTCOME	ampio recupero nelle prime fasi di malattia; talvolta risoluzione completa del disturbo

Neglect VS Emianopsia (sx)

Bisezione di linee

Test delle Campanelle

Copia di figure

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