Dolore e malattia neuropsichiatrica

Il dolore in geriatria

Cristina Cornali

Journal Club – 17 dicembre 2004

Il male oscuro

"...comunque nel momento presente non m'importa gran che di vivere m'importa di andarmene senza penare tanto, così mi metto a sacramentare dicendo che voglio un'iniezione di morfina e sacramento finchè non viene a quale ora del pomeriggio il famoso aiuto il quale evidentemente ce l'ha con me perchè gli ho fatto sbagliare diagnosi, ... d'altra parte lui ha una teoria piuttosto ingegnosa a proposito dei miei dolori ossia dice che sono mera finzione o per essere più benigni parto della fantasia...

... penso dunque quanto più posso alla faccenda del malato immaginario, sta' a vedere che i dolori me li invento io, faccio anche molti sforzi per convincermi di questo fatto sicuro di poterne trarre vantaggio e in verità sarebbe la cosa migliore del mondo uscire da questa tremenda sofferenza per mezzo di un controllo serio della fantasia, però non sembra probabile che dei dolori tanto massicci e consistenti traggano origine da un lavorio della immaginazione,... e così ad un certo momento mi metto a sbraitare che voglio un'iniezione di morfina e non la smetto finchè non appare l'aiuto con una faccia da nume offeso, ...comunque io non mi lascio intimidire dalla sua faccia sdegnosa e con i termini più efficaci che mi riesce di trovare gli parlo della realtà fisica dei miei dolori, e lui a sua volta mi spiega con sufficienza che io sono un mitomane e morfinomane..."

Giuseppe Berto, 1964

+ *Attenzione*

...Pain as a fifth vital sign...(Veterans Affairs healthcare facilities)

... Task Force on Guidelines for Desirable Characteristics for Pain Treatment Facilities...

(International Association for the Study of Pain, 1990)

...New standards for pain assessment e menagement...

(Joint Commission on Accreditation of Healthcare Organizations, 2000)

...AGS Panel on Persistent Pain in Older Adults, practice guidelines... (American Geriatrics Society, 2002)

“Aging, Pain, and Cancer: The role of geriatrics, oncology and palliative care”...

(Cancer Pain Release Vol. 17 – 2004)

Herr K, Decker S.

Assessment of pain in older adults with severe cognitive impairment.

Ann Long-Term Care:Clin Care Aging 2004;12(4):46-52.

"... it is imperative that health care professionals' knowledge and skills related to pain assessment in older adults be improved and aggressive approaches to comprehensive pain assessment be adopted."

MA ...

Chodosh J, Solomon DH, Roth CP, et al.

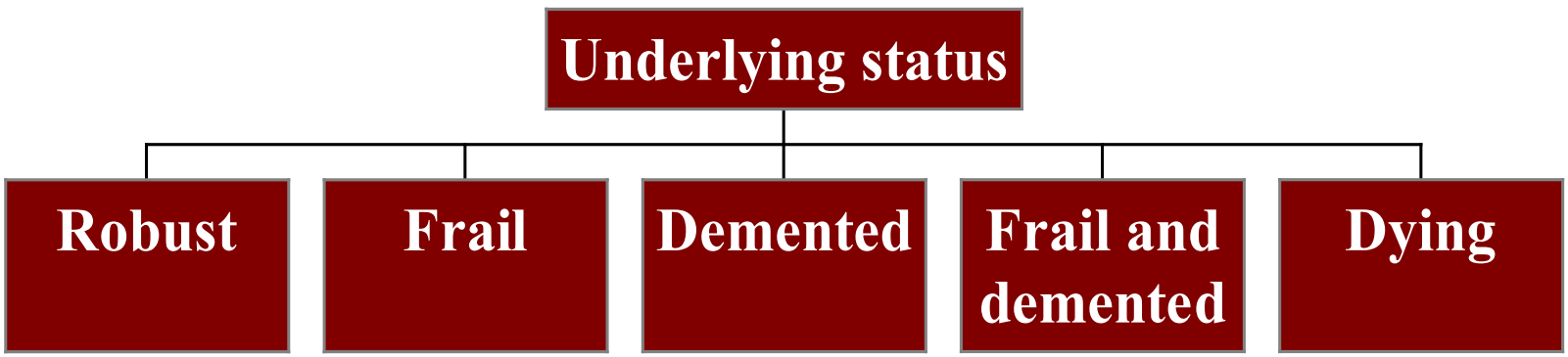
The quality of medical care provided to vulnerable older patients with chronic pain.

J Am Geriatr Soc 2004;52:756-61.

"... an appropriate assessment and management is far below acceptable standards..."

Il dolore poliedrico

Health status



Scompenso cardiaco in geriatria

- **Sintomi** dello scompenso cardiaco nei pazienti fragili, dementi, fragili e dementi e terminali (allettati) possono essere non manifestati sia per la ridotta attività fisica sia per la presenza di alterata percezione

- **Segni** dello scompenso cardiaco sono diversamente valutabili nei pazienti fragili, dementi e terminali (allettati)

Sindromi geriatriche

- Alterazioni dello stato mentale
- Isolamento e Depressione
- Instabilità posturale e Cadute
- Allettamento
- Impairment sensoriale
- Incontinenza
- Jatrogenesi
- .....
- **Dolore**

CHRONIC PAIN DUE TO OSTEOARTHRITIS AND MOOD DISORDERS IN THE ELDERLY

SETTING and PATIENTS

Among patients admitted in Richiedei GERU,

70 subjects were included in a research protocol about chronic pain due to osteoarthritis

(age 78.3±6.5 years, 91.4% female).

Exclusion criteria:

- a moderate-severe cognitive impairment (MMSE≤18/30)
- aphasia
- severe ipovisus
- recent orthopedic intervention
- vertebral fractures
- neuropathic or malignant pain.

METHODS - 1

The degree of pain was measured with the

Numeric Pain Intensity Scale (NPIS).

It allows patients to rate pain intensity on a numbered scale: 0=no pain, 5=moderate pain, 10=worst possible pain. A score of 2 or 3 means mild pain, a score of 7 or greater means severe pain.

The tool was submitted to the patients by a trained physician every day from the first day of inclusion in the protocol to the time when physician judged the pain well controlled, these times usually correspond to admission and discharge from the GERU respectively

(mean time of observation was 30.4±6.7 days).

Mc Caffery and Pasero, *Pain: Clinical Manual* 1999

METHODS - 2

To evaluate the outcome of pain reduction, the sample was divided in three groups according NPIS - score on the last day of observation, considered as discharge:

- 0 - 2 complete pain control (n.20; 28.6%)
- 3 - 4 moderate pain control (n.28; 40%)
- 5 - 10 low pain control (n.22; 31.4%)

METHODS - 3

On discharge from GERU, the severity of osteoarthritis was evaluated by the physician in a 5 point scale derived from the Greenfield's Individual Disease Severity Index:

0=osteoarthritis absent

1=asymptomatic disease (detected accidentally by X-ray)

2=symptomatic disease controlled by therapy

3=symptomatic disease uncontrolled by therapy

4=the worst possible severity of the disease.

Greenfield, *Clin Res* 1987

METHODS - 4

During the stay, subjects received

different therapeutic approach to pain:

- physiokinesictherapy
- physical therapy (ultrasound, transcutaneous electrical nerve stimulation)
- analgesics (registered according to the WHO)
- adjuvant drugs, in particular SSRI antidepressants.

AGS Panel on Persistent Pain in Older Persons, *JAGS* 2002

Table 1. Demographic characteristics of 70 patients divided according to NPIS-score on discharge.

	0 – 2 (n.20)	**3 – 4** (n.28)	**5 – 10** (n.22)	
	Mean± S.D. or N.(%)			*p*
Age (years)	79.6 ± 6.3	77.3 ± 6.8	78.5 ± 6.4	.562
Gender (F)	17 (85.0)	26 (92.9)	21 (95.5)	.453
Schooling (years)	5.5 ± 3.3	5.3 ± 1.9	4.7 ± 1.9	.509
Not – married	14 (70.0)	22 (78.6)	20 (90.9)	.232
Living alone	**6 (30.0)**	**3 (10.7)**	**12 (54.5)**	**.004**
Time of observation (days)	28.6 ± 7.6	31.1 ± 5.7	31.1 ± 6.9	.491

Table 2. Cognitive and functional status of 70 patients divided according to NPIS-score on discharge.

		0 – 2	3 – 4	5 – 10	
			Mean± S.D. or N.(%)		*p*
MMSE		23.9 ± 4.2	24.8 ± 4.0	24.1 ± 4.2	.729
GDS	admission	6.1 ± 3.5	6.7 ± 3.1	7.1 ± 3.7	.571
	discharge	5.0 ± 3.6 [a]	5.4 ± 2.9 [b]	6.3 ± 4.1 [c]	.503
Psychiatric disorder					
	dysthymic	**-**	**3 (10.7)**	**11 (50.0)**	**.000**
	adjustment	11 (55.0)	18 (64.3)	6 (27.3)	
Barthel Index	admission	79.2 ± 18.5	86.1 ± 16.8	89.4 ± 11.6	.248
	discharge	86.4 ± 14.1 [a]	88.5 ± 11.8 [b]	89.5 ± 11.6 [c]	.825
Tinetti Scale	admission	16.9 ± 4.0	18.3 ± 6.2	18.0 ± 5.3	.397
	discharge	21.6 ± 4.0 [a]	21.9 ± 5.0 [b]	20.5 ± 5.5 [c]	.682
PPT	admission	12.5 ± 4.4	14.2 ± 4.4	12.7 ± 5.6	.420
	discharge	16.6 ± 4.7 [a]	17.2 ± 4.3 [b]	15.3 ± 5.2 [c]	.394

Significance at Wilcoxon test between scores on admission and on discharge:

GDS: a=.020 b=.003 c=.101 Barthel Index: a=.021 b=.133 c=.605

Tinetti Scale: a=.000 b=.001 c=.000 PPT: a=.000 b=.000 c=.000

Table 3. Analogical measure and characteristics of pain in patients divided according to NPIS-score on discharge.

		0 – 2	3 – 4	5 – 10	
			Mean± S.D. or N.(%)		*p*
NPIS	**admission**	**7.5 ± 2.1**	**8.3 ± 1.9**	**9.2 ± 1.3**	**.011**
	discharge	**1.2 ± 0.8 [a]**	**3.6 ± 0.5 [b]**	**6.4 ± 1.2 [c]**	**.000**
Type of pain	back pain	8 (40.0)	12 (42.9)	11 (50.0)	.819
	low limb	3 (15.0)	6 (21.4)	5 (22.7)	
	multiple	9 (45.0)	10 (35.7)	6 (27.3)	
Period of pain (months)		4.2 ± 7.1	3.2 ± 2.9	5.8 ± 8.3	.573
Pain at rest		**1 (5.0)**	**2 (7.1)**	**7 (31.8)**	**.017**
Continuous pain		18 (90.0)	26 (92.9)	21 (95.5)	.791
Osteoarthritis severity					
	IDS - II	15 (75.0)	21 (75.0)	21 (95.5)	.079
	IDS - III	5 (25.0)	7 (25.0)	1 (4.5)	

Significance at Wilcoxon test between scores on admission and on discharge:
NPIS: a=.000 b=.000 c=.000

Table 4. Analgesic treatment of pain in patients divided according to NPIS-score on discharge.

	0 – 2	**3 – 4**	**5 – 10**	
		Mean± S.D. or N.(%)		*p*
Physiotherapy	11 (55.0)	18 (64.3)	13 (59.1)	.806
Physical therapy	10 (50.0)	18 (64.3)	12 (54.5)	.588
Analgesic drug	7 (35.0)	8 (28.6)	8 (36.4)	.820
admission	11 (55.0)	15 (53.6)	12 (54.5)	.995
discharge				
Antidepressant drug	**8 (40.0)**	**20 (71.4)**	**15 (68.2)**	**.065**

CONCLUSION

This pilot-study on patients with chronic pain due to osteoarthritis in a geriatric rehabilitative setting concluded that subjects who **live alone** or are affected by a **dysthymic disorder** are at risk to obtain poor result after one month of specific therapy.

DEPRESSION and PAIN

High incidence among individuals with chronic pain.

Correlates with higher levels of self-reported pain, lower levels of physical-psychosocial functioning and quality of life, negative influence on therapy compliance, duration of hospital stay, use of medical services, costs, and efficacy of rehabilitation.

Geisser, *Pain* 1994

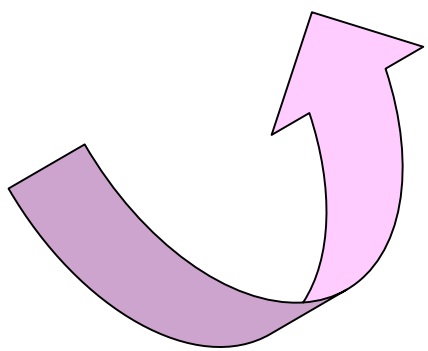
Harter, *Arch Phys Med Rehabil* 2002

result or causative factors?

Osteoarthritis $\Rightarrow$ Pain $\Leftrightarrow$ Depression

Osteoarthritis $\Rightarrow$ Pain

Depression



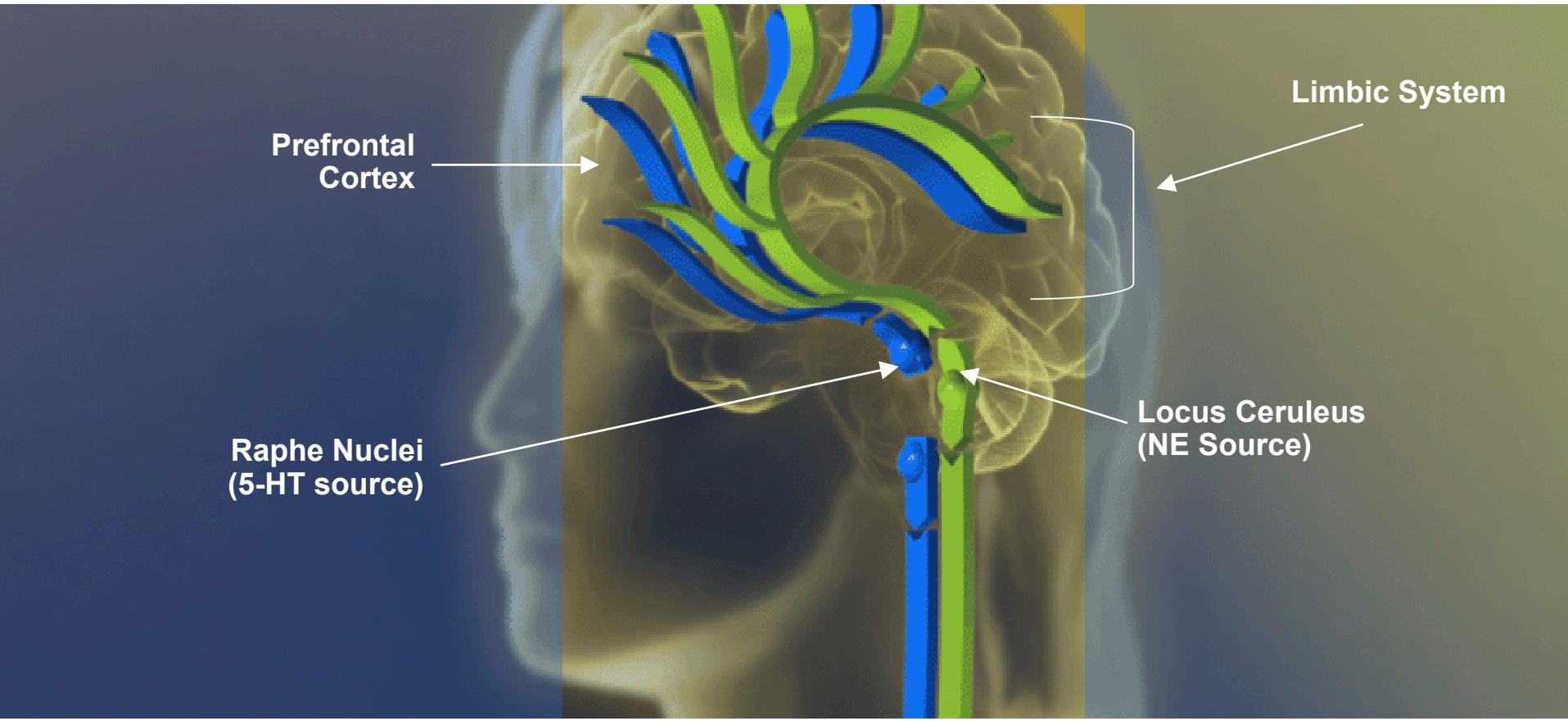
The biological hypothesis

Depression is a neuropsychiatric disorder due to low levels of serotonin and noradrenalin in the central nervous system.

On the other hand, biological pain researchers described that the same neurotransmitters can dampen peripheral pain signals by mediating a bidirectional feedback between central pain modulation system and peripheral nociceptive stimuli.

Lin, *JAMA* 2003

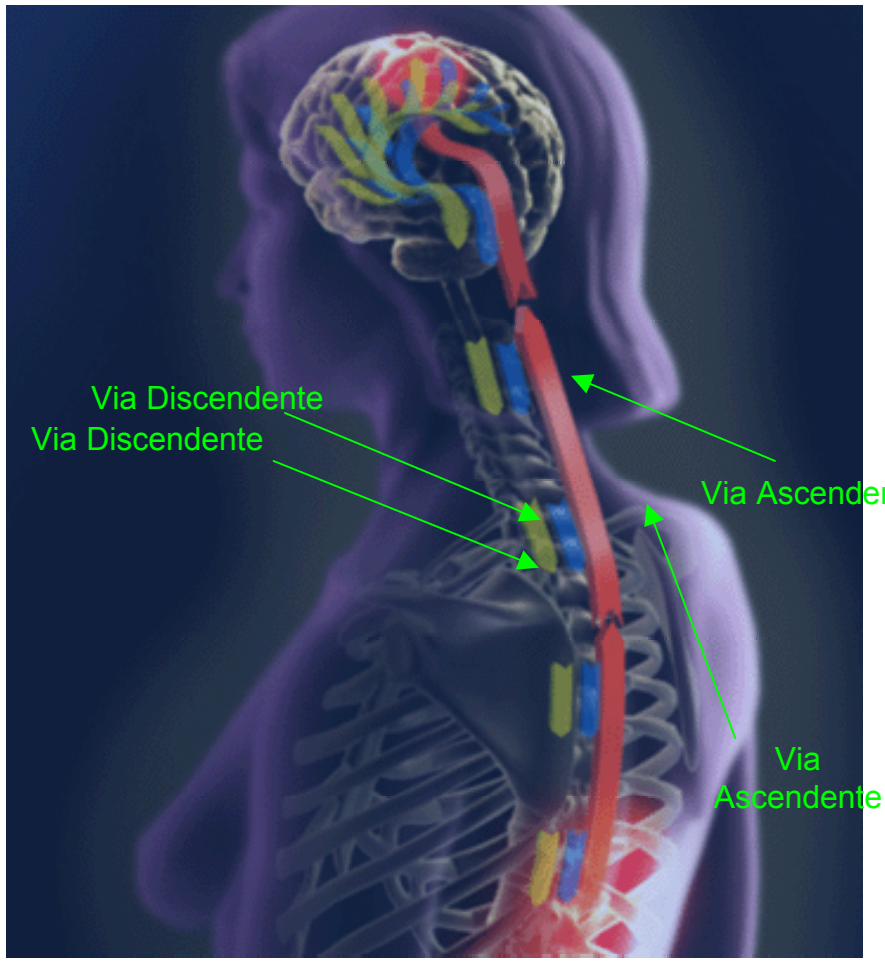
Serotonina^{5HT} e Noradrenalina^{NA} nel cervello



Cooper, Bloom, *The Biochemical Basis of Neuropharmacology 1996.*

VIE DI TRASMISSIONE NERVOSA

- Disregolazione di serotonina e noradrenalina nel cervello sono fortemente associati con depressione
- Disregolazione di serotonina e noradrenalina nel midollo spinale possono implicare un' aumentata percezione del dolore nei pazienti depressi
- Squilibri di serotonina e noradrenalina spiegano la presenza di sintomi affettivi e fisici della depressione



Stahl, *J Clin Psych* 2002
Verma, *Int Rev Psychiatry* 2000
Blier, *J Psychiatry Neurosci* 2001

The biological hypothesis

As a consequence, a modification of serotoninergic and noradrenergic systems determines both mood disturbances and alterations of pain perception.

This finding is confirmed by studies which demonstrated the usefulness of antidepressants with dual reuptake inhibition in the treatment of somatic symptoms of depression, in particular pain.

Fava, *J Clin Psychiatry* 2004

The psychological hypothesis

Coping strategies

Older primary care patients use a broad variety of methods to cope with chronic pain.

Pain are linked to the subjective personality, to the previous pain experiences, to the cultural-historical context where the patient lived.

Pain becomes a representation of the mind

Barry, *JAGS* 2004
Ferro and Servetto, *Ricerche in Psichiatria* 2004

There are several different types of mood disorder that would seem to be especially relevant to chronic pain, and comparing depressed and non-depressed subjects could be a too simplified approach.

DYSTHYMIC DISORDER	ADJUSTMENT DISORDER
• a dysphoric temperament and a natural tendency to develop depressed mood • pain represents a pretext to give expression to a subjective sensation of discomfort • pain becomes a symptom of psychological discomfort, it resists to analgesic and rehabilitative cure • 25% of patients never obtain a complete recovery	• a disadattative reaction due to a stressor • pain due to musculoskeletal disease directly contribute to feelings of helplessness and despair • good prognosis and response to treatment

Dworkin, *Pain* 1986
Kaplan and Sadock, *Psichiatria. Manuale di scienze del comportamento e psichiatria clinica* 2001

A trait of dysthymic patients is "**catastrophizing**", defined as the inability to persist in coping efforts, excessive worry about the future, and the tendency to view pain and the individuals' life situation as overwhelming

Geisser, *Pain* 1994

CONCLUSIONS

For the high prevalence of depressive symptoms in the elderly, GERU physicians believe that not a generic mood disturbance but a more specific one, such as dysthymia, could interfere with treatment of osteoarthritis.

It is necessary to go into the affective disorder and to find different therapeutic approaches.

QUALI IMPLICAZIONI TERAPEUTICHE

Breaking the myths: new treatment approaches for chronic depression. (Michalak, Can J Psychiatry 2002)

RESULTS: Chronic depressive disorders respond well to standard pharmacologic interventions in the acute and maintenance phases of treatment. Standard psychotherapies alone may not be efficacious for chronic depression (especially dysthymia). Recent evidence suggests that treatment combining psychotherapy and medications may be superior to either treatment alone.

BUT

Short-term trials seem reasonably conclusive in establishing the effectiveness of antidepressants for dysthymia and double depression, although rates of remission fall short of 50%.

(Kocsis, J Clin Psychol. 2003)

Cochrane Database Syst Rev. 2003

... Similar results were obtained in terms of efficacy for different groups of drugs:

- TCAs, NNT = 4.3 (95% CI 3.2-6.5)
- SSRIs, NNT = 5.1 (95% CI 3.9-7.7)
- MAOs, NNT = 2.9 (95% CI 2.2-4.3)

Other drugs (amisulpride, amineptine) showed similar results.

Patients treated with a TCA were more likely to report adverse events, compared with placebo and SSRIs.

Cochrane Database Syst Rev. 2003

CONCLUSIONS: Pharmacotherapy for dysthymia appears to be an effective short-term treatment for dysthymic disorder.

Newer antidepressants are equally effective and have better acceptability than TCAs, although their higher cost must be balanced against this assumed advantage.

... the choice of drug must be made based on consideration of drug-specific side effect properties.

Pain becomes a representation of the mind

International Association for the Study of Pain 1990

DESIRABLE CHARACTERISTICS FOR A PAIN CLINIC

A Pain Clinic should have access to and regular interaction with at least 3 types of medical specialties or health care providers. If one of the physicians is not a psychiatrist, a clinical psychologist is essential.

Il dolore e la mente rubata

Nel paziente che non ha memoria,

il più soggettivo dei sintomi torna ad essere un segno

(Cristina Geroldi, 2003)

DIAGNOSIS OF CHRONIC PAIN DUE TO OSTEOARTHRITIS AND PRESCRIPTION OF ANALGESICS IN PATIENTS WITH COGNITIVE IMPAIRMENT

PAIN and DEMENTIA

Pain is underdetected

Ability to identify pain in geriatric residents of NH

- 43% of the communicative subjects
- 17% of noncommunicative ones

Pain is undertreated

Even if the percentage of subjects with a painful condition was equal among patients with Alzheimer's disease and nondemented elderly persons, the percentage of demented subjects using NSAIDs or other analgesics was lower

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Herr, *Ann Long-Term Care:Clin Care Aging* 2004

Cohen-Mansfield, *Clin J Pain* 2002 Scherder, *Psychiatry* 2000

SETTING and PATIENTS

The study considered 1,096 subjects consecutively discharged from Richiedei GERU and RUD.

Exclusion criteria: being recently undergone to an orthopedic intervention.

The final sample was of 888 subjects (mean age 78.4±7.2 years, 69.5% female; mean length of stay 31.0±12.8 days), divided in 4 groups according to cognitive impairment:

- severe (MMSE 0-12)
- moderate (MMSE 13-18)
- mild (MMSE 19-24)
- absent (MMSE 25-30)

METHODS

Detection of musculoskeletal pain is based on :

a) patient's direct report

b) phisical signs (inflammation around joints)

c) *"pain behaviors" (modified by Cohen-Mansfield, 2002 , Clin J Pain)*

	Touching or holding the affected area of pain Red, blue skin or general discoloration Heat from specific body part Impaired walking Interrupted, rigid movement Gait or mobility changes Awkward standing and sitting positions Repetitive body movements

Asymptomatic osteoarthritis is defined by X-Ray.

Table 1. Characteristics on admission in Richiedei GERU of 888 patients, divided according to MMSE

	MMSE 0 – 12 n. 202 (F 62.4%)	**MMSE 13 - 18** n. 175 (F 76%)	**MMSE 19 – 24** n.247 (F 66%)	**MMSE 25 – 30** n.264 (F 74.6%)	
	Mean ± SD				*P*
Age	80.3 ± 7.4	80.2 ± 6.6	78.1 ± 6.9	76.1 ± 6.9	.000
MMSE	6.5 ± 4.1	15.5 ± 1.8	21.8 ± 1.7	26.9 ± 1.5	.000
Barthel index	26.9 ± 28.9	58.1 ± 29.2	66.4 ± 26.4	78.4 ± 20.9	.000
Tinetti scale	9.8 ± 8.7	14.0 ± 9.2	15.3 ± 8.7	18.5 ± 7.3	.000
No. diseases	5.3 ± 2.1	5.7 ± 2.1	5.5 ± 1.9	5.4 ± 1.9	.279
BOD	9.9 ± 4.4	10.4 ± 4.2	10.4 ± 4.2	9.8 ± 3.8	.273
Serum albumin	3.5 ± 0.5	3.5 ± 0.5	3.6 ± 0.4	3.6 ± 0.5	.000
Cholesterol	179.5 ± 40.3	188.7 ± 48.9	188.7 ± 43.8	193.7 ± 44.8	.009
VES	30.4 ± 24.6	25.9 ± 21.7	27.2 ± 24.9	20.6 ± 17.5	.000

Figure 1. Prevalence of osteoarthritis as first cause of admission in GERU requested by the general practitioner in 888 patients divided according to different degree of cognitive impairment (*p*=.000).

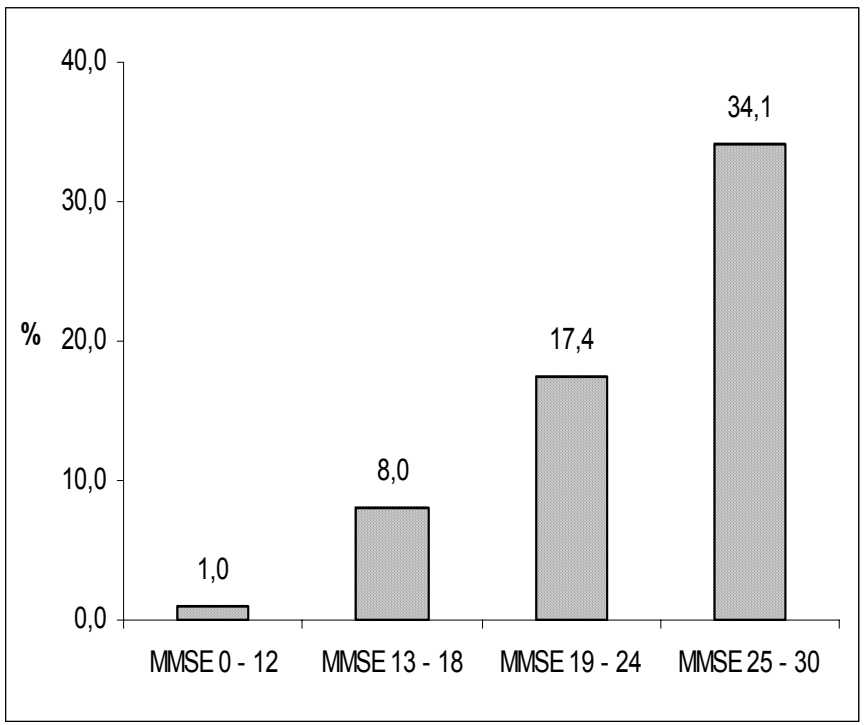


Figure 2. Prevalence of symptomatic osteoarthritis in 739 patients (without osteoarthritis as first cause of admission) according to different degree of cognitive impairment (p=.499).

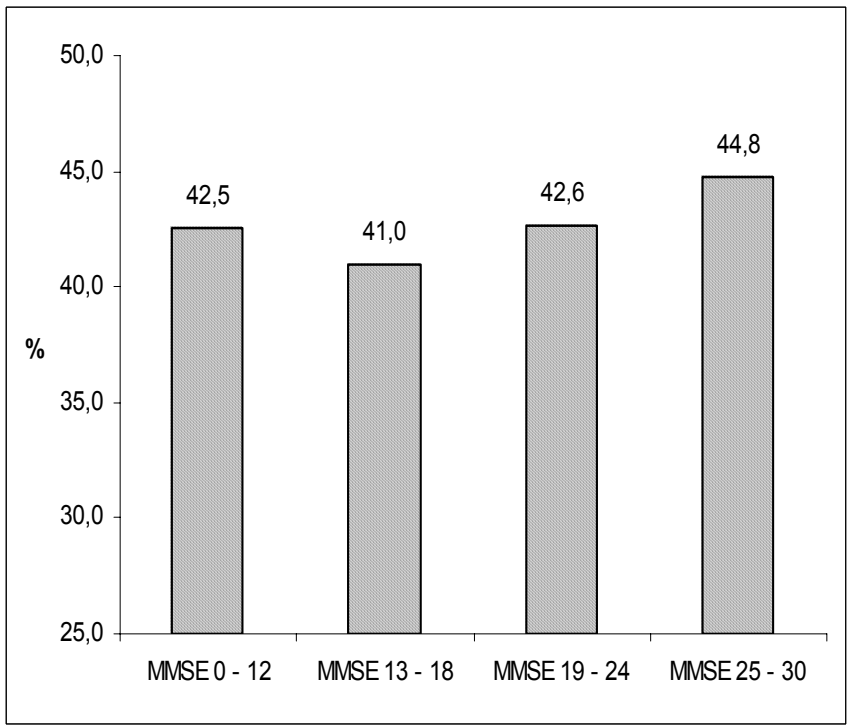
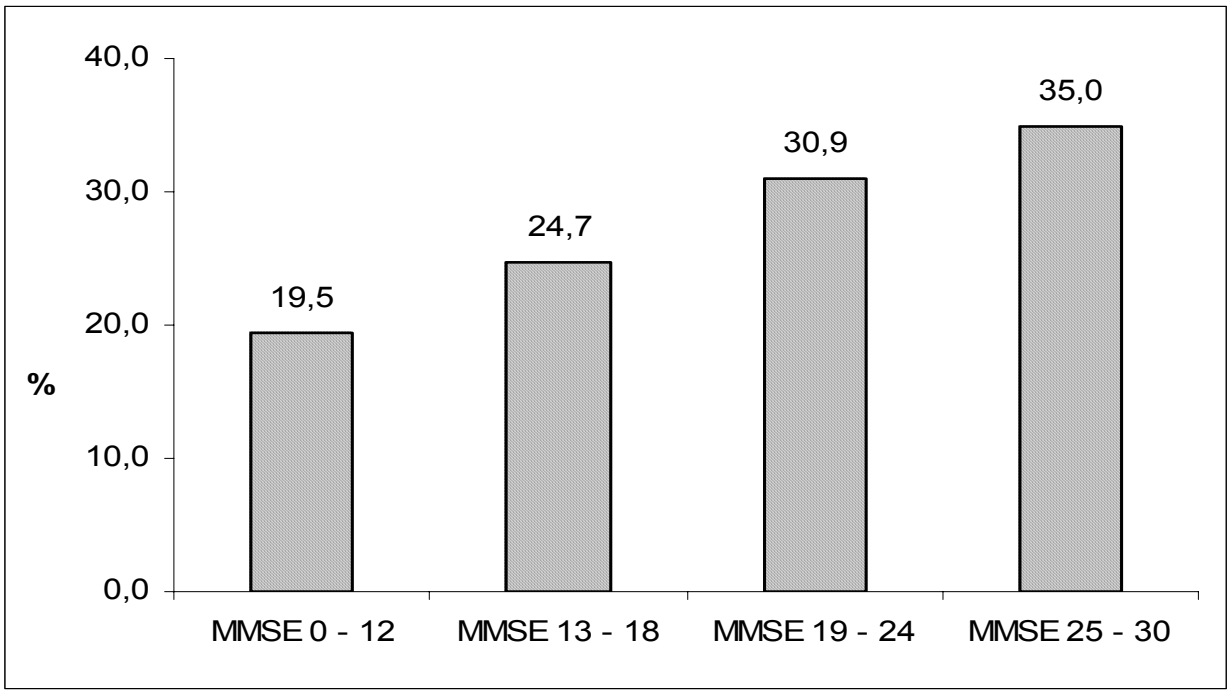


Figure 3. Prevalence of prescription of analgesic drugs on discharge in 455 patients with symptomatic osteoarthritis according to different degree of cognitive impairment.



P = .075, significance at Chi-square test between 4 groups (test-for-trend).
P = .016, significance at Chi-square test between MMSE 0-12 and MMSE 25-30 groups.

Table 2. Characteristics on admission of patients divided according to analgesics prescription on discharge.

	No-Analgesics n.324	**Analgesics** n.131	
	Mean+ S.D. or N.(%)		*P*
Age (years)	79.5 + 6.7	78.9 + 6.5	.397
Gender (F)	256 (79.0)	107 (81.7)	.606
Mini-Mental State Examination	19.3 + 7.9	21.1 + 7.2	.021
Geriatric Depression Scale	6.6 ± 3.2	6.6 ± 3.5	.834
Barthel Index	60.7 + 29.9	68.8 + 28.4	.009
Tinetti Scale	13.9 + 8.6	16.1 + 7.9	.014
No.somatic diseases	5.8 + 1.9	5.4 + 1.8	.040
Burden of Disease	11.2 + 4.1	9.9 + 3.8	.002

Using these independent variables in a regression analysis, the only predictor of analgesics prescription is somatic comorbidity (BOD, B -.085, *p*=.002).

CONCLUSION - 1

Few patients with severe cognitive decline were admitted in GERU for the cure of osteoarthritis; this finding indicates the low general practitioners' and caregivers' sensibility for musculoskeletal pain of cognitive impaired subjects.

CONCLUSION - 2

On the contrary the medical and nursing staff of GERU demonstrated that objective signs and behaviors permit the identification of symptomatic osteoarthritis in similar percentage of subjects with different severity of cognitive impairment.

Definitions of pain

Pain for the WHO...

a subjective feeling, an unpleasant sensory and emotional experience, induced by sensory stimuli and interpreted and modulated by individual emotions, memories, and expectations.

Pain for demented subjects...

a suffering associated with bodily injury or disease, characterized by physical and/or emotional discomfort, which gives rise to a set of distinctive behaviors perceived by caregivers as indicative of that discomfort.

Cohen-Mansfield and Creedon, *Clin J Pain* 2002

Modello di studio del dolore nel paziente demente

Selezione

Poliartrosi; crolli vertebrali; artrite; fratture recenti; protesi articolari recenti; lesioni da decubito

↓

Valutazione

Esame obiettivo; osservazione del paziente;
Verbal Rating Scale;
ABBEY Scale;
Numeric Pain Intensity Scale;
Neuropsychiatric Inventory

↓

Controprova

Ketorolac 10mg os → effetto atteso dopo circa 2 ore
Ketorolac 30mg im → effetto atteso dopo circa 25 min

Modificazioni comportamentali

Discrepanza tra diagnosi e atto di cura

The concern for the use of many drugs in demented and elderly subjects prevails over the compliance to clinical guidelines.

Cognitive decline alone does not seem to be the major predictor of poor prescription, but its association with somatic comorbidity limits the medical decisions.

Discrepanza tra diagnosi e atto di cura

Chronic use of *Non Steroidal Anti-Inflammatory Drugs* causes

- gastrointestinal injures, that are difficult to evaluate in subjects which cannot communicate dyspepsia

- increasing in confusion and fluid retention in patients with high comorbidity and polipharmacy.

On the other hand, the use of *Opiates* is exposed to the fear for delirium, constipation and urine retention.

Delirium AND tramadol

PubMed: Item 0

In una percentuale di pazienti tra il 7 e il 14% (la percentuale più elevata si riferisce a pazienti che avevano assunto il farmaco per periodi fino a 90 giorni) si sono verificati sintomi di stimolazione del SNC che comprendevano: ansia, nervosismo, tremore, agitazione, rigidità muscolare, euforia, disturbi dell'emotività, allucinazioni, modificazioni della capacità cognitiva.

OSARE, non quantitativamente di più, ma in modo diverso

Fishbain, et al.

Do the second-generation "atypical neuroleptics" have analgesic properties? A structured evidence-based review.

Pain Med. 2004 Dec;5(4):359-65.

Based on the above results, it was concluded that the reviewed data were generally consistent, suggesting that some of the atypicals may have an analgesic effect. There were, however, few double-blind, placebo-controlled studies, and many of the reports/studies had less than 50 patients. As such, this question requires further research.

Lo scoprire consiste nel vedere quel che tutti hanno visto...

e nel pensare quel che nessuno ha pensato

Marcel Proust