FRATTURA DI FEMORE

Simone Franzoni

CMR, Palazzolo S/O

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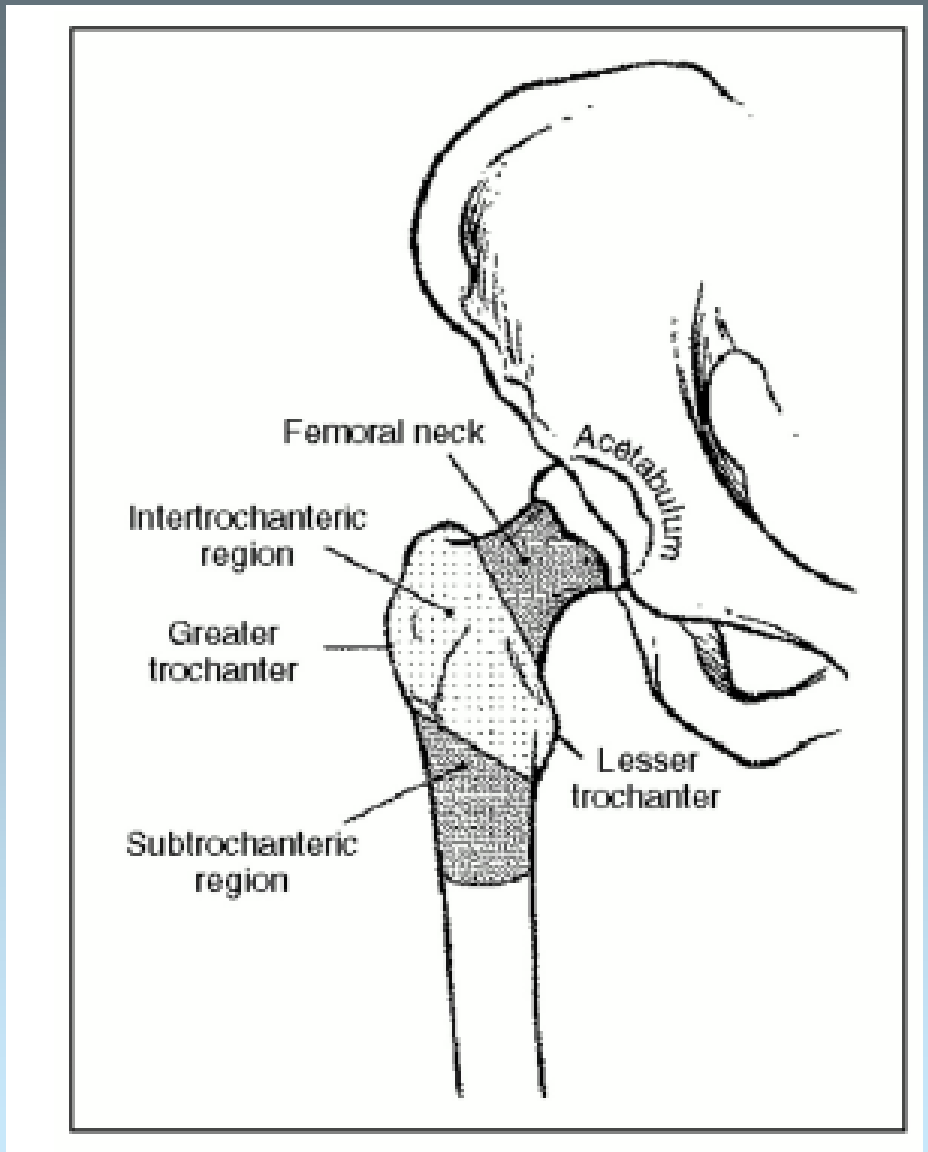
GRG 4-8-2006


Femoral neck
Acetabulum
Intertrochanteric region
Greater trochanter
Lesser trochanter
Subtrochanteric region

Untreated pain is a major health care issue

and very little is known about

the treatment of pain and the effect of pain on post-operative outcomes in older adults.

Caso clinico (….. fra dolore, delirium e disabilità)

- **XXXX, 76 anni, M, vedovo da 15 anni, ex commerciante**

- **Demenza Alzheimer**
  (1° diagnosi UVA Richiedei nel ‘05; ultima val. nov.’05
  MMSE 20/30 GDS 2/15 NPI 10/144 Tinetti 26/28;
  in terapia con 5 mg donepezil)
- **Caregiver: figlia** NPI 5/60

- **Lieve comorbilità somatica (ipertensione arteriosa sistemica)**

DIAGNOSI *(motivo ricovero)*

Recente** (50gg) **politrauma da caduta secondaria a disorientamento con

- ***delirium ipercinetico (con aggressività, agitazione)***
- ***esiti ematoma subdurale frontale sinistro***
- ***fratture multiple (femore –endoprotesi e rotula sx, scapola, diafisi omero -osteosintesi, coste 5-6-7-8°, clavicola sx; seni mascellari)***
- ***sind. da allettamento con piaga sacrale II***
- ***gastrite erosiva (emotrasfuso)***
- ***panniculite tronco e ferita chirurgica da stafilococco; esiti tracheostomia***

DIAGNOSI *(comorbilità)*

Demenza di Alzheimer con associata encefalopatia multinfartuale

Ipertensione arteriosa sistemica, grado 1, rischio cardiovascolare molto elevato

Cardiopatia ischemica cronica

Terapia in atto all'ingresso

- Valproato 300 1c al mattino
- Valproato 500 1c alla sera

- Omeprazolo 20 1c al mattino
- Atenololo 50 1c al mattino
- Clonidina TTS2 1cerotto settimanale
- Nitroglicerina 10 1cerotto dalla sera alla mattina
- Nadroparina 5700 UI 1 f al mattino

(Donepezil 5 sospeso)

Valutazione clinica

- Riferisce dolore che non è in grado di localizzare
- Iperestesia

- Opistotono da seduto, grave paura di cadere
- Linguaggio normale, assente disfagia
- Incont. urinaria acuta (autorimozione catetere) e fecale
- Tranquillo; agitazione psicomotoria serale e notturna

Terapia 1° settimana

- Valproato 300 1c al mattino
- Valproato 500 1c alla sera
- Trazodone 150 1c alla sera
- Promazina 50 ½ f im alla sera
- Diclofenac 75 1 f im alla mattina, pomeriggio e sera

- Omeprazolo 20 1c al mattino
- Atenololo 50 1c al mattino
- Clonidina TTS2 1cerotto settimanale
- Nitroglicerina 10 1cerotto dalla sera alla mattina
- Nadroparina 5700 UI 1 f al mattino

Olio vaselina + clisma

FKT

- Rigido, ansioso, ostile
- Fkt impraticabile

Decorso clinico

- Lieve riduzione dolore dopo 3 gg di terapia antalgica; si prosegue per altri 3 gg aumentando omeprazolo a 40 mg/die
- FKT riscontra maggior partecipazione
- Riduzione agitazione notturna (promazina somministrata solo 2 volte)

- PA ai limiti inferiori sospeso atenololo

- **7° g:** sostituzione diclofenac con 3 gr paracetamolo

  Dopo 1 gg ricomparsa dolori diffusi, opposizione alla FKT e agitazione notturna
- **9° g:** sostituzione paracetamolo con tramadolo 25 mg mattino pomeriggio e sera
- **12° g:** riduzione dolore, FKT riscontra maggior partecipazione, aumento agitazione notturna (aloperidolo + lorazepam e sospensione tramadolo serale)

  IVU da Klebsiella (cotrimoxazolo)
- **16° g:** salto spondine notturno senza complicazioni gravi

- **17-22° g:** peggioramento delirium con ulteriore salto spondine (controllo RX negativo; TC conferma lesioni ischemiche cerebrali note)
- **23-27° g:** sospeso valproato e tramadolo con risoluzione delirium completa, notevole partecipazione FKT (in 4 gg da seduto cammina con deambulatore a 2 punte), senza dolore
- **28-31° g:** umore depresso, assenza di dolore, progressiva sospensione aloperidolo

Assessment alla dimissione

- MMSE 14/30
- Cornell 12/38

- Dolore completamente assente

- BADL 20/100
- Tinetti 13/28

Terapia alla dimissione (32 ° giornata)

- Lorazepam 1 1 c alla sera
- Donepezil 5 1 c dopo colazione

- Omeprazolo 20 1c al mattino
- Clonidina TTS1 1 cerotto settimanale
- Nitroglicerina 10 1 cerotto dalla sera alla mattina
- Nadroparina 5700 UI 1 f al mattino

Olio vaselina

ADI + FKT

Dopo 1 mese dalla dimissione

(colloquio telefonico con paziente, caregiver, FKT e mdf)

- MMSE in miglioramento progressivo
- Aumento sintomi depressivi: venlafaxina 75mg

- Ricomparsa dolore alla deambulazione da carico: paracetamolo 2-3 g/die

- BADL 60/100
- Tinetti 20/28

Dopo 3 mesi dalla dimissione
(visita ambulatoriale)

- MMSE 20/30
- GDS 1/15 (venlafaxina)

- Dolore saltuario alla deambulazione da carico: placebo

- BADL 70/100
- Tinetti 25/28

Spunti di discussione

- **No terapia antalgica in polifratturato dopo 50 gg**
- **Delirium accentuato / dovuto al dolore ?**
- **Delirium sostenuto da oppioidi ?**
- **Paracetamolo inutile per dolore medio-grave**
- **Dolori di differente origine ?**
- **Dolore e limitazione motoria / funzionale**
- **Placebo nella terapia del dolore: non etico ?**

Topics:

- dolore preoperatorio
- dolore postoperatorio
- dolore acuto nel demente
- dolore – delirium
- terapia antalgica: oppiodi
- oppiodi nel demente

The Effect of Emergency Department Crowding on the Management of Pain in Older Adults with Hip Fracture

Ula Hwang, MD, MPH,[*†] *Lynne D. Richardson, MD,*[*] *Tolulope O. Sonuyi, BS,*[‡] *and R. Sean Morrison, MD*[†§]

JAGS FEBRUARY 2006–VOL. 54, NO. 2

50% of emergency physicians report discomfort in their level of training in giving analgesia to older people.[11] These findings suggest that older adults in the ED may be at high risk for oligoanalgesia.

The objective of this study was to evaluate the effect of ED crowding on the assessment and treatment of pain in older adults with hip fracture. Hip fracture was used as a model, because it is common in the geriatric population and is associated with significant pain and loss of function.[12]

RESULTS

The original hip fracture study enrolled 179 patients from this study site. Of these, 158 were admitted from the ED and were included in this study. Mean patient age was 83 (range 52–101), 79.7% (n = 126) were female, 81.0% (n = 128) reported a complaint of pain, and 72.8% (n = 115) had documentation of pain assessment (Table 1). The mean time to first documented pain assessment was 40 minutes (range 0–600 minutes); mean time to first documented pain treatment was 141 minutes (range 10–525 minutes); mean time between first documented pain assessment and pain treatment was 122 minutes (range 0–526 minutes). Log transformation of time data revealed normal distribution. Of those reporting complaints of pain (n = 128), 35.9% received no analgesic, 7.0% received nonopioid medication (e.g., acetaminophen), and 57.0% received an opioid.

Table 3. Multivariate Logistic and Linear Analyses of Risk Factors with Outcomes

	Documentation of Pain Assessment		Received Analgesia		Ln (Time to Pain Assessment)		Ln (Time to Pain Treatment)	
Variable	Odds Ratio (95% CI)	*P*-value	Odds Ratio (95% CI)	*P*-value	Parameter Estimate (95% CI)	*P*-value	Parameter Estimate (95% CI)	*P*-value
Age	0.99 (0.96–1.04)	.86	0.99 (0.96–1.03)	.77	−0.003 (−0.027–0.022)	.81	−0.01 (−0.03–0.02)	.58
Male*	0.83 (0.33–2.10)	.70	0.343 (0.14–0.77)	.01	0.44 (−0.09–0.98)	.10	0.24 (−0.58–1.06)	.56
RAND score ≤2	1.33 (0.63–2.82)	.45	1.02 (0.52–2.01)	.96	−0.23 (−0.65–0.19)	.28	0.02 (−0.41–0.44)	.95
Dementia	1.43 (0.65–3.11)	.37	0.76 (0.37–1.54)	.45	−0.45 (−0.89–0.01)	.04	−0.05 (−0.51–0.40)	.81
Census >120%*	0.46 (0.21–0.98)	.05	2.02 (0.89–4.62)	.10	0.79 (0.25–1.32)	.01	0.19 (−0.29–0.67)	.44
Mean emergency department length of stay >100% annual	0.85 (0.39–1.88)	.70	1.17 (0.55–2.45)	.69	−0.14 (−0.58–0.30)	.54	0.22 (−0.25–0.69)	.36

In conclusion, the findings of this study were significant for oligoanalgesia (only 64.1% of patients complaining of pain received medication), considerable delays in analgesic administration once pain was identified (>2 hours), and treatment with inappropriate analgesics (meperidine) in the ED for older patients with hip fractures. Factors significantly associated with pain assessment and treatment included ED crowding as measured according to census levels greater than 120% bed capacity, dementia, and sex.

This study found that men received analgesia less frequently and showed a trend toward taking longer times to having their pain assessed and that patients with a history of dementia had quicker times to documented assessment of pain, although no significant differences existed in the other pain management outcomes. These findings are contrary to the hypotheses. Although a growing body of literature indicates that women and minorities often face undertreatment of pain, especially for metastatic cancer pain,[6,25] the predominance of women in this study (79.7%) may have biased the results. Additionally, previous work at this study institution on pain management in patients with dementia may have influenced the more-prompt assessment of pain in the ED for patients with dementia.[12]

Topics:

- dolore preoperatorio
- **dolore postoperatorio**
- dolore acuto nel demente
- dolore – delirium
- terapia antalgica: oppiodi
- oppiodi nel demente

J Clin Nurs 2006

Patients undergoing total hip arthroplasty: a perioperative pain experience

Stomberg MW, Oman UB. University of Skovde, Sweden.

n.112 adult patient undergoing surgical hip replacement procedures answered a questionnaire on the 4° postoperative day.

The questionnaire included given alternatives and VAS (0-100 mm) for the pain assessment.

The patients' postoperative pain experience after hip replacement surgery was in average low (33 mm / 100 mm VAS)

Patient's pain experience was highest on the **1° postoperative day** for most of the patients.

Older patients reported less average pain level postoperatively.

Satisfaction with pain management was high.

The preoperative pain experience tends to be higher than the postoperative pain experience.

Patients who reported a higher pain experience postoperatively reported that their pain experience was significant higher than preoperative expected.

Orthop Nurs 2002

Treatment of pain for older HF patients across settings

Feldt KS, Gunderson J. University of Minnesota

To examine the treatment of pain following HF across H (last 24 h) **to NH** (first 24 h)

n.115 subjects, +65 y, surgical treatment of a HF

The mean H LOS following surgery was 4.8 d

Subjects received significantly less medication during the first 24 h in the NH vs the last 24 h of H.

37% of the subjects received no opioid analgesic
18% received no analgesic of any kind during the first 24 h of NH stay.

Rather than simply listing medications orders,
H nursing staff should communicate type, amount, frequency and efficacy of pain medication in transfer notes to NH staff.
NH staff would benefit from postoperative pain management education.

J Gerontol Nursing 2002

Older adults with HF.
Treatment of pain following hospitalization

Feldt KS, Finch M. University of Minnesota

Pain experiences and treatment for older adults in long-term care setting 3 week after surgical repair of a HF.

2/3 of all participants reported pain

Most rated pain as slight or mild in severity (severe by 17%)

Pain report was similar for cognitively impaired and intact participants.

< 50% NH care plans documented comfort as a goal

40% receive no pain medication 3 weeks postoperatively (25% of these rated their pain as moderate or severe).

Pain documentation, including effective non-pharmacological treatments, needs to be improved for cognitively impaired and intact older adults who are recovering from HF surgery.

JAGS 2004

Persistent pain in frail older adults after HF repair

Herrick C, Steger-May K, Sinacore DR, Brown M, Schechtman KB, Binder EF. Washington University, St Louis

To identify factors associated with persistent hip pain in elderly HF patients with physical frailty.

n.88 patients (+80 y)
with a recent HF (mean 14.5+/-4.8 week after HF repair)
physical frailty, defined as a modified PPT score 12-28,
enrolled in an exercise intervention trial.

42% reported moderate or severe hip pain

Moderate/severe pain was related to difficulty with ADL performance.

Variables independently associated with moderate/severe pain were:

- **frequency of pain medication use** (OR 5.75, 95%CI 2.23-14.82, p.003)
- **Yesavage Mood Score** (2.69, 95%CI 1.18-6.12, p.02)
- **knee extension at 60° in the fractured limb** (0.96, 95%CI 0.92-1, p.05).

J Adv Nurs 2005

Fear of pain and fear of falling among younger and older adults with musculoskeletal pain conditions

Martin RR, Hadjistavropoulos T, McCreary DR. University of Regina, Canada.

Fear of pain interferes with recovery because it leads to avoidance of beneficial activity.

There were no age differences with respect to fear of pain and fear of falling.

Regression analyses **supported the distinctiveness of fear of pain and fear of falling.**

Pain 2003

The impact of post-operative pain on outcomes following HF

Morrison RS, Magaziner J, McLaughlin MA, Orosz G, Silberzweig SB, Koval KJ, Siu AL. Mount Sinai School of Medicine, New York

To identify the impact of pain on outcomes following HF in older adults

n.411 consecutive cognitively intact patients

To examine the **association of post-operative pain on**

- immediate post-operative outcomes (LOS, physical therapy sessions missed or shortened, ambulation following surgery, and post-operative complications)

-**outcomes 6 months following HF** (locomotion, mortality, return to the community, residual pain).

Patients with higher pain scores at rest had significantly:

- **longer H LOS** (p.03)
- **more likely to have physical therapy sessions missed or shortened** (p.002)
- **less likely to be ambulating by postoperative day** (p.001)
- **took significantly longer to ambulate past a bedside chair** (p.01)
- **lower locomotion scores at 6 months** (p.02).

Not significantly associated with
post-operative complications, NH placement,
survival at 6 mo or residual pain at 6 mo.

Topics:

- dolore preoperatorio - in
- dolore postoperatorio

- dolore acuto nel demente

- dolore – delirium

- terapia antalgica: oppiodi

- oppiodi nel demente

bmj.com

Recent developments in pain in dementia

Erik Scherder, Joukje Oosterman, Dick Swaab, Keela Herr, Marcel Ooms, Miel Ribbe, Joseph Sergeant, Gisele Pickering and Fabrizio Benedetti

BMJ 2005;330;461-464

Patients with dementia may express their pain in ways that are quite different from those of elderly people without dementia.[3] Particularly in the more severe stages of dementia, therefore, the complexity and consequent (frequent) inadequacy of pain assessment leads to the undertreatment of pain.

Undertreatment of pain in dementia

Several observational studies indicate that pain is undertreated among cognitively impaired elderly people. Fewer analgesics are prescribed for the oldest category of cancer patients (> 75 years) than for younger patients, and low cognitive performance was one of the independent predictors of this finding.[5]

people in advanced stages of dementia who have had hip fractures receive significantly less opioid analgesics than do those who are cognitively intact.[6]

Sensory-discriminative and motivational-affective aspects of pain in subtypes of dementia

The processing of sensory-discriminative aspects occurs in the lateral pain system, whereas motivational-affective aspects are processed by the medial pain system.[4] Although the distinction between these aspects of pain, and subsequently between the two pain systems, has so far received too little attention in clinical studies on pain in dementia, experimental pain studies have shown its importance.

Registration of pain related somato-sensory evoked potentials in patients with severe dementia showed that the processing of pain that involves areas of the medial pain system (such as the anterior cingulate gyrus) was impaired, although the pain stimulus itself was perceived adequately (lateral pain system).[18] Benedetti et al observed that the pain thresholds (a sensory-discriminative aspect) of patients with Alzheimer's disease did not differ from those of elderly people without dementia, whereas pain tolerance (a motivational-affective aspect) was significantly increased in the Alzheimer's disease group.[19]

although patients with Alzheimer's disease may still perceive the presence of pain, they may experience its intensity and affective aspects to a lesser extent.

people with dementia may have difficulty understanding the meaning of the sensation and placing it in context. This could potentially explain the atypical behavioural responses observed in this population (such as frowning or fearful expressions, combativeness, withdrawal, and agitation).

In summary, with respect to Alzheimer's disease, the change in the processing of the affective components of experimental pain (higher tolerance) resembles the decrease in the motivational-affective components of clinical pain.[23]

Alzheimer

Aree somatico sensitive corticali sono preservate e questo spiega la capacità di percepire gli stimoli acuti dolorosi.

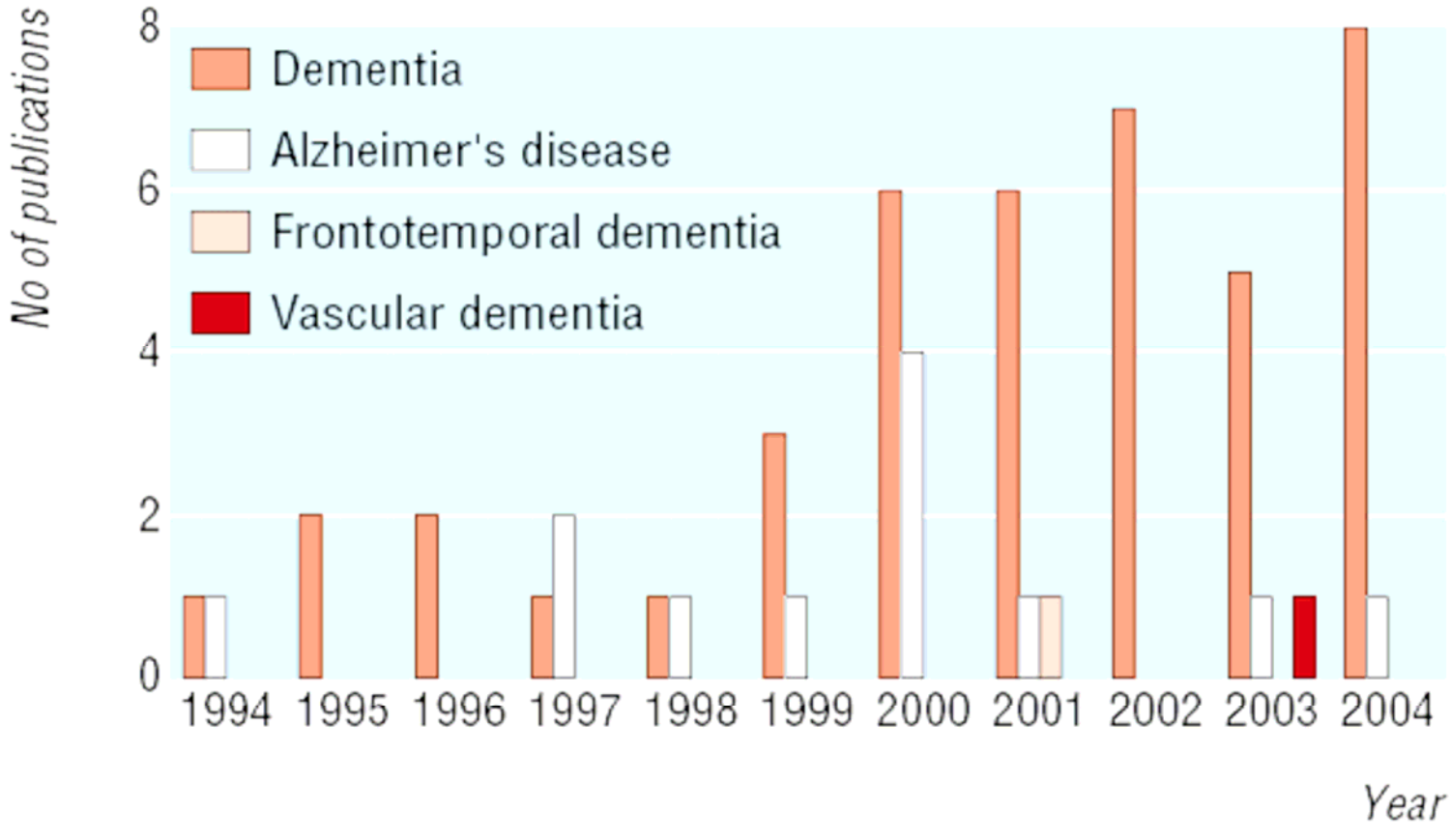
Coinvolgimento amigdala, nuclei intralaminare ippocampo e regioni setto-ippocampali potrebbe essere un meccanismo che sta alla base incapacità di integrare il dolore nell'esperienza soggettiva.

Alzheimer patients report less pain intensity and pain effect than non-demented elderly. Scherder B, Bouma A, Borkent M et al. Psychiatry 1999; 62: 265–72.

Table 2 Relation between neuropathology and results of experimental and clinical studies with respect to influence of subtypes of dementia, and the influence of Parkinson's disease and multiple sclerosis without cognitive impairment, on motivational-affective aspects and presence or intensity of pain

	Motivational-affective aspects of pain		Presence or intensity of pain	
Condition	Possible neuropathological involvement	Experimental and clinical results	Possible neuropathological involvement	Experimental and clinical results
Alzheimer's disease	Degeneration of thalamic intralaminar nuclei	↓	Relatively unaffected	Relatively unaffected
Vascular dementia	De-afferentiation	↑	Not examined	Not examined
Frontotemporal dementia	Degeneration of prefrontal cortex	↓	Not examined	Not examined
Parkinson's disease, not cognitively impaired	Degeneration of brain stem nuclei	↑	Relatively unaffected	Not examined
Multiple sclerosis, not cognitively impaired	De-afferentiation	↑	Dysfunction of spinothalamic tract	↓

Experimental and clinical studies should differentiate more consistently between the sensory-discriminative and motivational-affective aspects of pain and among the various subtypes of dementia



Number of clinical and experimental publications on pain in dementia, Alzheimer's disease, frontotemporal dementia, and vascular dementia between 1994 and 2004. Note that most of the papers do not distinguish the subtype of dementia

The Role of Postoperative Analgesia in Delirium and Cognitive Decline in Elderly Patients: A Systematic Review

Harold K. Fong, MD, Laura P. Sands, PhD, and Jacqueline M. Leung, MD, MPH

(Anesth Analg 2006;102:1255–66)

Whether patients with dementia perceive pain as clearly as do those without dementia is uncertain; a recent publication suggests that they do (26). On the other hand, orthopedists find that senile patients with well-fixed, unstable hip fractures who are allowed full weight on the leg have a much greater chance of displacing the fracture and fixation than do the totally lucid patients. In my opinion, decreased perception of pain is the most likely reason.

Topics:

- dolore preoperatorio
- dolore postoperatorio
- dolore acuto nel demente
- **dolore – delirium**
- terapia antalgica: oppiodi
- oppiodi nel demente

Espressione clinica indiretta

Conseguenze del dolore non trattato

Disturbi comportamentali: agitazione, ansia, verbalizzazione, depressione, disturbi del sonno, iporessia

Delirium

S.ipocinetica, riduzione attività comuni
Sintomi autonomici (> fc, > fr, sudorazione)
Instabilità posturale e cadute

Journal of Gerontology: MEDICAL SCIENCES
2003, Vol. 58A, No. 1, 76–81

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Relationship Between Pain and Opioid Analgesics on the Development of Delirium Following Hip Fracture

R. Sean Morrison,[1] Jay Magaziner,[2] Marvin Gilbert,[3] Kenneth J. Koval,[4] Mary Ann McLaughlin,[1] Gretchen Orosz,[1] Elton Strauss,[3] and Albert L. Siu[5]

DELIRIUM is the most frequent medical complication observed in patients hospitalized with HF.

Prevalence 13-61%

Associated with delayed recovery, increased mortality, poorer physical – cognitive - affective function 6mo postfracture

HF patients are **typically older, have poorer baseline functional status**, more comorbid medical conditions, and a higher prevalence of dementia.

HF is associated with considerable pain, and undertreated pain has been demonstrated to be an **independent risk factor for delirium in healthy older adults undergoing elective surgery.**

Risk factors for delirium

- **cognitive impairment** (RR 3.6; 95%CI 1.8–7.2)

- **abnormal blood pressure** (2.3, 2–4.7)

- **heart failure** (2.9, 1.6–5.3).

- **received < 10 mg of parenteral morphine sulfate equivalents per day** (5.4, 2.4–12.3) (meperidine vs other opioid 2.4, 1.3–4.5).

- **severe pain** in cognitively intact patients (9.0, 1.8–45.2).

Relationship Between Delirium Risk Factors and Analgesic Prescribing

To assess whether clinicians were reducing opioid doses in patients they perceived to be at greater risk for delirium.

All patients with 1o+ delirium risk factors received 10mg of morphine sulfate equivalents vs patients with no delirium risk factors received 11mg.

Cognitively intact patients 17mg vs 11mg.

Cognitively impaired patients 6.5mg vs 9mg.

Undertreated pain is a significant contributor to the development of delirium.

Opioids, with the exception of meperidine, do not precipitate delirium in patients with acute pain and

that avoiding opioids or administering very low doses of opioids is associated with an increased risk of delirium.

A major barrier to the treatment of pain in older adults has been the fear that opioids cause delirium.

ORIGINAL INVESTIGATION

Risk Factors for Adverse Drug Events Among Nursing Home Residents

Terry S. Field, DSc; Jerry H. Gurwitz, MD; Jerry Avorn, MD; Danny McCormick, MD, MPH; Shailavi Jain, RPh; Marie Eckler, RN, MS, CS, CRRN, GNP; Marcia Benser, RN, MS; David W. Bates, MD

Arch Intern Med. 2001;161:1629-1634

Table 5. Independent Risk Factors for Having a Preventable Adverse Drug Event

Risk Factor	Odds Ratio* (95% Confidence Interval)
Male	0.55 (0.30-0.99)
Charlson Comorbidity Index[7] score	
0	0.43 (0.14-1.3)
1-2	1.0 (Referent)
3-4	1.6 (0.88-2.9)
≥5	2.6 (1.1-6.0)
No. of regularly scheduled medications	
0-4	1.0 (Referent)
5-6	1.7 (0.83-3.5)
7-8	3.2 (1.4-6.9)
≥9	2.9 (1.3-6.8)
Current medications	
Antibiotics/anti-infectives	3.0 (1.6-5.8)
Antidepressants	2.0 (1.1-3.5)
Antipsychotics	4.0 (2.2-7.3)
Antiseizure drugs	2.2 (1.1-4.5)
Nutrients/supplements	0.27 (0.14-0.50)
Opioids	6.6 (2.3-19.3)

*Adjusted for age.

Although this study cannot determine

whether improved pain management will reduce the incidence and duration of delirium,

it provides evidence to support future studies of intensive pain management in older adults.

Topics:

- dolore preoperatorio - in Pronto
- dolore postoperatorio
- dolore acuto nel demente
- dolore – delirium

- terapia antalgica: oppiodi
- oppiodi nel demente

TRAMADOLO

Inibitore reuptake serotonina e noradrenalina, agonista recettori mu
Attivazione vie discendenti di inibizione del dolore

Stessa efficacia ed effetti collaterali ossicodone e codeina
Associazione consigliata con paracetamolo

Effetti collaterali:
stipsi, dispepsia, ipotensione ortostatica
vertigini, sonnolenza, delirium, cognitive impairment, epilessia

Rischio effetti collaterali:
-**aumento rapido dose** **(start 50mg x1 / x2; aumento 50mg ogni 3 gg o 100mg ogni 7gg)**
-**associazione con altri oppioidi**
-**associazione con i-MAO, SSRI** (sind.serotoninergica)
-**insuff.renale epatica** **(< dose max 300mg/die)**

10 Most Commonly Asked Questions About the Use of Opioids for Chronic Pain

David Lussier,

The Neurologist • Volume 10, Number 4, July 2004

What are the main differences between specific opioids? Is one opioid better than another?

No opioid is intrinsically “better” than another.

The initial selection of an opioid agonist should be based on **previous experience** of both the clinician and the patient (eg, physician’s familiarity or patient’s previous response to one specific opioid agonist),

as well as on the patient’s **comorbidities** (eg, avoid morphine if renal failure, favor transdermal fentanyl if dysphagia or inability to swallow) and the **pharmacologic properties of the opioid.**

Can opioids be used safely in older patients?

Because of frequent comorbidities and polypharmacy, older patients are more prone to adverse effects from opioids, including **delirium and sedation**, than their youngs.

These concerns, held by both health care professionals and older people and their families, **often prevent older patients from receiving adequate pain control**.

Undertreated pain also has several **detrimental effects** on older people, including reduced physical functioning, depression, sleep impairment, and decreased QoL.

Inadequate management of postoperative pain has also been shown to be a risk factor for delirium.

Opioid should always be started at the lowest available dose and titrated slowly depending on analgesic response and adverse effects.

Even though sustained-release, **long-acting formulations** can be used safely, they should only be given to patients for whom an effective and safe daily dose of a short-acting opioid has been established.

The efficacy of the opioid should be re-evaluated on a regular basis and it should be **discontinued if not effective**.

The presence of **adverse effects should be assessed systematically**, and they should be treated if possible. For frequent adverse effects, it might be appropriate to institute a preventive regimen (eg, prophylactic bowel regimen in patients at risk for constipation).

Some opioids should not be used in older patients (meperidine). Because of its long and variable half-life, which predisposes to drug accumulation, methadone should be used cautiously and by clinicians who are experienced with its use.

Nonopioid analgesics (acetaminophen), adjuvant analgesics should be used concurrently with opioid therapy to reduce the opioid dose required to achieve analgesia, hence reducing the associated adverse effects.

Conclusioni

- dolore pre-postoperatorio sottotrattato

- dolore postoperatorio limitato nelle prime settimane, misurabile con andatura, meno frequente per aumento artroprotesi vs osteosintesi

- dolore acuto nel demente varia
- dolore postoperatorio è un problema se coesiste delirium

- oppiodi: 1° scelta nella terapia del dolore moderato-severo anche nel paziente demente