Regulating Pain

Ashok C. Choithani, MD, FACP, FAAHPM
Certified—IM, Geriatrics, Palliative Care
Aurora Health Care

Margaret 80 y/o F with OA

- Brought to office by son, Robert, with memory loss.
- Widowed. Lives alone in senior housing
- Neighbor calls son, not paying bills so phone disconnected. Appears lost at grocery store. Couldn't find car in parking lot one day.
- Robert noted pots with burned food.
- I'm not crazy.

Margaret

- Irritable but not depressed.
- No Delusions or hallucinations.
- No Alcohol, drugs, cigarettes.
- PE: Non-focal. 19/30 MMSE.
- Labs: B12, folate, TSH, Chem 12
- CTOH: Small-vessel ischemia/atrophy.

Robert asks MD: Does mom have SDAT?

- A) Dementia can only be dx at autopsy.
- B) Unfair to label dementia without brain bx
- C) Her Sx, PE, labs, CTOH suggest dementia
- D) Need MRI and screening for syphilis to be sure

What are the most likely causes?

- A) Alzheimer's only
- B) Vascular dementia only
- C) Mixed Vascular and Alzheimer's
- D) FTD
- E) PD
- F) Pick's

Dementia

- Acquired, Persistent, Progressive, Cognitive impairment, interferes with function.
- Etiology: SDAT. Vascular. PD. Lewy body. FTD.
- Prognosis: Terminal.
  - Life expectancy is < 9 years.

Scope of the problem

- USA
  - 5 million today
  - 13 million in 2050
- Worldwide
  - 30 million today
  - 100 million in 2050

- Nat. Rev. Neuro; 2012

Delirium

Diagnosis

- Acute mental status changes
- Fluctuating level of consciousness
- Inattention

Etiology

- Medications
- Infections
- Constipation
- Insomnia
- Pain

Stages of Alzheimer's

- Mild: Slight memory difficulties. Personality changes. Independent. Help with IADL's
- Moderate: Need assistance with ADL's. Problems with judgment. Can't live independently.
- Severe: Assistance to ambulate. Help with ADL's.
- Terminal: Non-ambulatory, Minimal speech. Difficulty with swallowing.

What additional testing might be done?

- A) Neuropsychiatric testing
- B) Functional imaging
- C) Lumbar puncture
- D) Sleep study

Treatment for Alzheimers

- Started on Cholinesterase inhibitor/maximized
  - Helped with irritability
- What outcomes are helped by this txt:
  - A) Global impression of change
  - B) Cognition
  - C) Function
  - D) Neuropsychiatric symptoms

Robert is helping with IADL's

Caregiving is burdensome. He asks: How long will this go on? Will she end up in NH?

- A) Have you spoken to SW about resources?
- B) Patients can generally manage in own apt?
- C) Mom will need more help over time—hard to predict
- D) Have you spoken to family members about mom's care as she gets further into disease.

What is the typical disease progression?

A) Rapid decline in cognition and function

B) Slow progressive deterioration

C) Slow progressive deterioration punctuated by episodes of substantial cognitive and functional decline

D) Other co-morbidities are only ones that contribute to decline.

What additional Rx might be helpful?

- A) Anti-psychotic
- B) Anti-depressant
- C) NMDA antagonist
- D) A second cholinesterase inhibitor

Margaret is now admitted to NH

- Needs help with ADL's. Continent.
- Now has aggressive behaviors—screaming and hitting—not responding to anti-depressants and behavioral txt
- Started on quetiapine (anti-psychotic)
  - Increased due to worsened behaviors
    - NH threatened to discharge patient
    - Hit Robert when he tried to help her dress

Can't you give her a stronger tranquilizer

- What is best approach?
  - A) Send to hospital for LP and Neurological consult
  - B) Suggest Robert take her home
  - C) Begin palliative sedation
  - D) See, examine patient and speak to caregivers

What is DDx of agitation/aggression in dementia?

- A) Physical or psychological symptom
- B) Concomitant medical illness
- C) Change in environment
- D) Underlying Neuro-degenerative process

What are possible adverse effects of anti-psychotics?

- Extrapyramidal effects
- Hyperglycemia
- QT prolongation
- Stroke
- Weight gain
- Hyperlipidemia

Case continues

- Poor appetite and insomnia
- OX2. 0/3 recall. Weight loss 5 pounds.
- Right knee swollen/painful. X-ray: CPPD
- Rx: Steroid taper and Tylenol
- Pain decreases, appetite improves, socially improved, agitation resolves.
- Quetiapine decreased.

Robert asks: What about feeding tube?

- Margaret is w/c bound. Incontinent. Speaks < 6 words/day. Feeder. Pockets food.
- Admitted with PNA. Has stage II decubiti. Weight loss 15 pounds.
- TF? Which would you not say?
  - A) Don't you think she is tired of living?
  - B) G-Tube is surgical procedure with risks/benefits
  - C) TF doesn't prevent aspiration or prolongs life
  - D) Should we just keep her comfortable

Feeding tubes in End stage dementia

- A) Decrease hospitalization
- B) Prevent aspiration
- C) Decrease mortality
- D) Heal decubiti
- E) None of above

What are other reasons for decreased PO intake

- Depression
- Constipation
- Dry mouth
- Poor fitting dentures
- Medications such as Benadryl/Digoxin

Complications of Dementia

- Acute infections
- Decubiti
- Dysphagia
- Hip fx.
- Malnutrition
- Constipation

Immobility + Dementia

- Increased risk of UTI: 3.4 X
- Increased risk of PNA: 6.8 X
- Increased risk of Decubiti

Impact of Co-morbid illnesses

- DM
- ASHD and other heart diseases
- Stroke
- Hip fractures/ Osteoporosis
- Decubiti

Life expectancy

- On average <9 years
- Average approximately 6 years
- Life expectancy is about 3 years after NH placement.
- Advanced Dementia: 6 month mortality of 25% and median survival of 1.3 years.
  - NEJM: October 2009

Sx in last year of life

- Altered mental status
- Behavioral issues
- Incontinence
- Pain
- Depression
- Constipation
- Loss of appetite

Which is not reason for hospice?

- A) Being able to ambulate independently
- B) Speaking 2-3 intelligible words/day
- C) Aspiration PNA
- D) Weight loss

What are benefits of hospice?

- Management of pain and non-pain symptoms
- Decreased hospitalization
- Prolongation of life
- Increased support for family and professional caregivers

Distressing Symptoms

- Agitation: 53.6%
- Dyspnea > 5 days/month: 46%
- Aspiration: 40.6%
- Pain > 5 days/month: 39.1%
- Pressure Ulcer > Stage 2: 38.7%

NEJM October 15, 2009

Burdensome treatment

- Last 18 months
  - Parenteral therapy: 34 %
  - Hospitalization: 17%
  - ER evaluation: 10%
  - TF: 8%
- Last 3 months
  - Parenteral therapy: 29%
  - Hospitalization: 12%
  - ER evaluation: 3%
  - TF: 7%
- NEJM: October 15, 2009

Pain

- Definition: Unpleasant sensory and emotional experience in response to actual or potential threat to body integrity
- Classification
  - Nociceptive
    - Somatic
    - Visceral
  - Neuropathic
- Perception of pain
  - Thalamus, Amygdala
  - Somatosensory cortex
  - Dorsal Horn to limbic system
    - Decreased in Dementia
  - Withdrawal at spinal level
- Chronic pain: neuroplasticity

Prevalence of pain

- 19% > age 80 in community—Pain
  - 50% take pain meds
- 80% NH patients have acute or chronic pain
- 50% of demented patient's experience pain

Untreated pain

- Distressing
- Impairs social interaction
- Impairs sleep
- Impairs appetite
- Impairs QOL
- Behavioral Sx
  - Aggression
  - Agitation
- Psychological Sx
  - Psychosis
  - Depression

Assessment

- Incident vs Intermittent vs Continuous
- Location
- Quality
- Radiation
- Severity
- Aggravating or relieving factors
- Interference with ADL's/function
- Effect of previous pain treatment

Medical Problems contributing to pain

Aging

- OA
- Musculoskeletal pain
- Constipation
- ASHD

Acquired

- DM
- Infections
- Decubiti
- Cancer or chemotherapy
- Bone metastasis

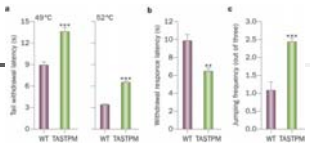
Psychosocial and Spiritual pain

- Personality disorders
- Anxiety or depression
- Drug or alcohol abuse
- Spiritual issues

Why under-recognized pain?

- Behavioral domains absent
- Impaired facial expression
  - Grimacing
- Impaired verbalization
  - Moaning
  - Calling out
- Impaired body movements
  - Rigid or Tense
- Impaired interaction
  - Aggression
- Alteration in Mentation
- Change in activities
- Consequently
  - Under-recognized
  - Under-treated

Figure 1 Response to acute pain behavior in mouse models of AD



Corbett, A. *et al.* (2012) Assessment and treatment of pain in people with dementia
Nat. Rev. Neurol. doi:10.1038/nrneurol.2012.53

nature REVIEWS NEUROLOGY

Diagnosis of pain in patients with dementia

- Self Report: Early stages
- Caregiver rating: Good if daily contact
  - Face
  - Verbalization
  - Body movement
  - Changes in activity
- Observational:
  - Labor intensive
  - MOBID-2
- Interactive: ADD
  - Behaviors due to unmet needs.
- Future
  - Neuropeptides

Treatment of Pain

- Non-Pharmacological
  - Music
  - Massage
  - Soothing touch
  - Heat or Cold
  - Passive therapy (ROM)
  - Treatment of constipation

RCT

- 114 Moderate to severe dementia with behavioral symptoms in 14 Nursing Homes
- Nurse led stepped txt program vs usual care
  - Non-pharmacological txt.
  - Analgesic
  - Psychiatric eval and txt.
- Improved pain and behavior
- Rx group got analgesics: 46% vs control: 3%
  - Kovach: Am J Alz and other dementias 2006

RCT in pain txt

- 352 patients with mod-severe dementia and behavior issues: 8 wk analgesic Rx
  - Decreased agitation
  - Decreased aggression
- Patients in treatment group worse in 4 wks after study stopped.

  - Husebo: BMJ 2011

Pain meds improve behavior

- 8 NH patients with difficult behaviors
  - Successful discontinuation of psychotropic medications in 63% of patients receiving analgesics: Tylenol 650 mg TID
    - 4 discontinued antipsychotics
    - 2 discontinued antidepressants

  - Annals of Long term Care: 1998

Non-Opioid analgesics

- Use for mild pain
  - Oral—Limited by ceiling effect
    - Tylenol
    - NSAIDS or COX-2 inhibitors
- Topical
  - NSAID patches
  - Capsaicin cream
  - Aspercream/Ben-Gay
  - Lidoderm

Opioids

- Pain relief in moderate to severe pain
- No Ceiling effect
- Anti-tussives
- Help decrease work of breathing in dying patients

Opioids

- Weak Opioids
  - Codeine
  - Hydrocodone
- Strong Opioids
  - Morphine
  - Hydromorphone
  - Oxycodone
  - Fentanyl
  - Methadone

Opioid Caveats

- Don't titrate with Fentanyl patches
- Don't use Fentanyl lozenges or lollipops for chronic pain
- Don't use IM route
- Don't use Morphine in patients with CKD
- Don't use Meperidine for chronic pain
- Decrease dose when titrating between opioids

Opioid use

- Start with short acting opioid
- Give around the clock
- Give at proper interval
- Treat incidental pain proactively
- Use weak opioids for moderate pain
- Use strong opioids for severe pain
- Use adjuvants

Opioid side effects

- Constipation
- Nausea and Vomiting
- Sedation
- Urinary Retention
- Pruritus
- Myoclonus
- Respiratory Depression
- Opioid Induced Neurotoxicity

Adjuvants

- Corticosteroids
- Anti-epileptics
- Tricyclics
- NMDA antagonists
- Bisphosphonates
- Calcitonin

Interventions

- Intercostal blocks
- Intrathecal opioids
- Epidural opioids
- Local anesthetics

Opioid Myths

- Tolerance: Need more drug for effect
- Psychological dependence: Need drug
  - Addiction: Compulsion of use
- Pseudo addiction: Clock watching
- Dependence: Opioid withdrawal sx

Conclusions

- Dementia is terminal
- Multifactorial
- Complications
  - Placement
  - Behavioral sx
  - Infections
  - Decubiti
  - Dysphagia
- Pain
  - Ubiquitous
  - Multifactorial
  - Difficult to identify in dementia
  - May lead to behavioral issues
  - When in doubt, must treat empirically