

**Palliative Care
Issues near the end of life**

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Case 1

- 80 year old woman living alone in community with supportive children in nearby community
- Known non-small cell lung cancer for several months.
- Brought to ER by friend c/o confusion of several days duration
- No food or drink for last 12 hours at least
- Resistant to care, picking at air, mumbling

Case 1

- Non-small cell cancer not amenable to surgery. Bone metastases in lower lumbar spine at diagnosis with mild pain.
- Patient declined chemotherapy or radiotherapy
- Past medical history:
 - COPD
 - CHF mild
- Smokes 1ppd
- Medications: ramipril, furosemide, Tylenol #3, atenolol, puffers

Case 1

- What is the diagnosis?
- What are the potential causes?
- What would you do?

Delirium: DSM IV Diagnostic Criteria

1. Disturbance of **consciousness** with reduced ability to focus, sustain, or shift **attention**
2. A change in **cognition** or the development of a **perceptual disturbance** that is not better accounted for by a pre-existing, established, or evolving dementia
3. The disturbance **develops over a short period of time** (hours to days) and tends to **fluctuate** during the course of the day
4. Evidence that the disturbance is caused by the direct consequences of a **general medical condition**

Delirium: Clinical Subtypes

- 3 clinical presentations
 - Hyperactive
 - Hypoactive
 - Mixed
- Hypoactive delirium often missed
- Hypoactive poorer prognosis

Breitbart, W et al. Psychosomatics. 2002;43:183-194
Lawlor, PG et al. Arch Int Med. 2000;160:786-794
Meagher, DJ et al. J Neuropsychiatry Clin Neurosci. 2000;12:51-56

Delirium: Frequency

- Over 80% of patients develop delirium at end of life
- Associated with increased morbidity and mortality
- 27-44% of advanced cancer patients at time of admission to acute care hospital or PCU
- Independent factor in predicting short-term survival of patients with advanced cancer
- Hospitalized elderly up to 56% present with delirium

Caraceni, A et al. Cancer. 2000;89(5):1145-9
Lawlor, PG et al. Arch Int Med. 2000;160:786-794

Difficulties in Patient Assessment

- Impairs patient communication
- Misinterpretation of agitated delirium as increased pain intensity
 - May lead to unnecessarily increasing opioids and other analgesics, potentially increasing the delirium severity

Breitbart, W et al. Psychosomatics. 2002;43:183-194
Eisendrath, SJ and Shim, JJ. Amer J Med. 2006;119:22-29

Bottom Line

- Delirium makes assessment of pain and other symptoms difficult
- Delirium makes psychological assessment and counselling impossible

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Delirium: Causes

- Drugs
 - Opioids, benzodiazepines, gabapentin, steroids, TCA
- Metabolic
 - Hypercalcemia, uremia, hepatic encephalopathy, severe hyponatremia, cytokines
- Infections
- Dehydration
- Hypoxia
- Intracranial disease
 - Metastases

Pre-existing dementia makes delirium management challenging

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Managing Diagnosed Delirium: 3-Pronged Approach

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graph TD; Screen[Screen] --> Diagnose[Diagnose]; Diagnose --> A[Identify and treat underlying causes (if possible and if appropriate)]; Diagnose --> B[Control symptoms]; Diagnose --> C[Communicate]; A --- P1[+]; B --- P2[+]; P1 --- C;
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Opioids

- Are they the cause?
 - Metabolite build up?
 - Poor renal function?
- Was the delirium related to undertreated pain?
 - Is there a more appropriate molecule?
 - Route?
 - How to titrate and measure success?
- Dehydration
 - Assessment and rehydration

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Pharmacological Management

- Traditional Neuroleptics
 - Generally considered first-line
 - Haloperidol
 - Methotrimeprazine

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Haloperidol Doses in Palliative Care

- Depends on the severity
- The more severe the higher the dose
 - Mild to moderate:
 - 1-2 mg PO q8-12 hrs **OR** 0.5-1 mg SC q8 to 12 hrs PLUS PRNS q1 hr
 - Severe:
 - Higher doses required
 - 2.5 to 5 mg SC q4-6 hrs PLUS PRNs q1 hr

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Benzodiazepines in Palliative Care

Group	Baseline	Day 2	End of Treatment
Haloperidol (N=11)	~15	~12	~11
Chlorpromazine (N=12)	~15	~11	~10
Lorazepam (N=6)	~15	~18	~19

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Breitbart W, et al. J Am Psych 1996;153(2):231-237

*Dotted line indicates threshold score of 11, at which patients were identified as delirious.

- **Benzodiazepines**
 - Appear to worsen delirium in palliative patients
 - Generally avoided

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Non-Pharmacological Approaches

- Avoid using restraints (be more aggressive with pharmacological if necessary)
- Encourage family to refrain from correcting or confronting the delirious patient
 - This can add to their distress if not avoided
- Quiet room
- Dim lights
- Limit visitors
- Cover mirrors

Case 1

- Diagnosis: hyperactive delirium secondary to hypercalcemia, opioid induced neurotoxicity, dehydration
- Patient is stabilized and is able to be at home for 5 weeks with declining function
- Returns to hospital with agitated delirium and dyspnea. Diagnosis: hypercalcemia, pneumonia, dehydration, bone and liver metastases, decreased LOC

Case 1

- Current medications:
 - Ramipril, furosemide, atenolol, puffers
 - Oxycodone SR 30mg q12hrs for bone metastases pain
- Patient is accompanied by son and daughter who are very distressed with her confusion and obvious distress

Case 1

- What are the key decisions at this point?

- How would you manage the symptoms?

Case 1

- Trial of therapy to control underlying factors in delirium
 - Rehydrate
 - Treat infection and hypercalcemia
 - Treat dyspnea with hydromorphone 1-2mg s.c.q4hrs with breakthrough dose of 1mg q1hr prn
- Initial improvement but again becomes agitated and is distressed and resistant to any interventions. RR 32 and looks dyspneic. Myoclonus present

Case 1

- What are the possible underlying causes of delirium now?

- How would you manage them?

Opioid-Induced Neurotoxicity (OIN)

- Neuropsychiatric syndrome
 - Cognitive dysfunction
 - Bad dreams, hallucinations, delirium
 - Myoclonus/seizures
- More likely to occur with concomitant:
 - Infection
 - Dehydration
 - Fragile CNS

Opioid Metabolites

- Meperidine – toxic metabolites ++
- Codeine – metabolized to morphine
- Morphine – toxic metabolites in renal failure and frail elders
- Hydromorphone – metabolites are cleared quicker but may cause toxicity
- Oxycodone, fentanyl, methadone – no active metabolites

Principles of opioid rotation

- Calculate the equianalgesic dose
- Reduce the dose of new opioid by 25-50%
- potential greater sensitivity to new opioid
- Prescribe new opioid with adequate breakthrough dose
- Reassess and titrate to target dose

Equianalgesic conversion in palliative care

- Morphine 10mg
- Tylenol #3 2 tablets
- Codeine 60mg
- Hydromorphone 2mg
- Oxycodone 5-7.5mg
- Methadone 1mg (not q4hr)
» variable ratio

Equianalgesic conversion

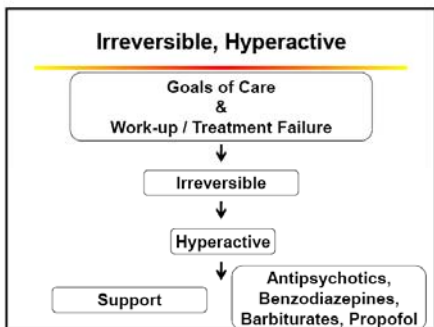
- Fentanyl
 - Each 25ug patch is equivalent to 50 - 100mg of oral morphine/day
 - Rule of thumb: frail older adults convert at 100mg oral morphine/day

Case 1

- Switch hydromorphone to fentanyl infusion
- Hydromorphone 12mg sc/day =
 - 24mg oral hydromorphone
 - 120mg oral morphine per day
 - 25mcg/hr of fentanyl sc infusion
- Adjuvant medications for dyspnea
 - Methotrimeprazine 2.5-5mg sc q 6-8 hours regularly

Case 1

- Dyspnea better controlled with fentanyl titrated up to 30mcg/hr
 - Still remains confused and restless. Says she is being poisoned and trying to get out of bed.
 - Declining each day – not eating or drinking
 - Family present but anxious
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- What is happening?
 - How would you manage this?



Palliative Sedation

- Terminal delirium
- Delirium is traumatic for both patient, family and staff
- Palliative sedation is given with the aim of controlling agitation
- No evidence that use of sedatives in last hours to days shortens life

Midazolam

- Rapid acting, short half life
- Aim is to titrate to "peaceful dozing"
- 5mg midazolam = 1mg lorazepam
- Give loading dose of 2-5mg then run at 2-10mg hr
- Ensure that whole team supports family through this

Palliative Care Consultation Phone Line

1-877-711-5757
