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Geriatrics-
Delirium and Pharmacology in Acute Care

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Mission Statement

• The mission of IU Geriatrics is to promote successful aging by improving the quality of health care services for older adults through education, research, and the interdisciplinary team approach to care.

Vision

• The vision of the IU Geriatrics program is to be a local and national leader in health care services and scholarship, and support the efforts of health care providers, educators, patients, families, and policymakers to improve the health care and vitality of older adults.

Recognized as a John A. Hartford Foundation Center of Excellence, promoting health and independence of the older adult.

Services

• ACE
• GRACE
• Senior Health Centers at IUH & Eskenazi
• Extended Care
• Health Aging Brain Center
• House Calls for Seniors
• OPTIMISTIC
Objectives

At the end of the presentation you will be able to:

1. Define delirium
2. Identify & implement treatments
3. Recognize benefits to ACE team/geriatric specialist
4. Adjust treatment plans for delirium with underlying dementia
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Delirium
Delirium: confusing terminology

- Acute Confusion
- Sundowners
- Pleasantly confused
- Appropriately confused
- ICU or Hospital Psychosis
- Sometimes mislabeled as dementia
- Acute Brain Failure
Delirium

• A disturbance of consciousness in which patients have a reduced ability to focus, sustain, or shift attention, along with a change in cognition or a perceptual disturbance, that is not better accounted for by dementia (American Psychiatric Association)

• Inattention is the HALLMARK feature
Delirium

Subtypes:

- Subacute/Subsyndromal
- Hyperactive—what we are used to seeing
- Hypoactive—“pleasantly confused” or lethargic
Delirium

Associated Symptoms:

• Hallucinations, delusions
• Abnormal psychometric activity
• Emotional disturbances
• Sleep disturbances
Delirium

Populations at risk:

- Age 65 or older
- Hx of cognitive impairment and/or dementia
- Surgical Procedures
- Acute Infection or Metabolic Insult
Delirium

• Baseline Vulnerability
  – Underlying brain disease (dementia, stroke, Parkinson)
  – Increased age
  – Chronic disease (COPD, CHF, HTN, ETOH dependency, diabetes)
  – Visual/hearing deficits

• Precipitants
  – Medications
  – Infection
  – Dehydration
  – Immobility/restraints
  – Malnutrition
  – Tubes/catheters
  – Electrolyte imbalance
  – Sleep deprivation
Delirium

Contributory Risk Factors—lower the threshold for delirium development

- Excess noise, TV on continuously
- Constant light
- Foul smells
- Frequent interruptions
- Lack of verbal & cognitive stimulation
- Presence of drains, tubes, lines (tethers)
- Pain
- Urine & Bowel incontinence, retention or constipation
Delirium

Assessment:

- Confusion Assessment Method (CAM)
- CAM-ICU
- NEECHAM
- Delirium Assessment Scale
- NuDESC
- Intensive Care Delirium Screening Checklist
Delirium

At IU Health:

- Delirium Protocol for IU Health
- Screen on Admission: risk factors
- Use CAM-Med/Surg Tool or CAM-ICU
- Begin non-pharmalogical interventions if risk factors present and/or CAM positive
- Request a Specialist Consult - CNS or Geriatric Specialist
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Prevention and Treatment
Prevention

Multicomponent interventions that address:

- Cognitive impairment
- Sleep deprivation
- Immobility
- Sensory impairment
- Dehydration

Prevention

• IU Health Delirium Protocol

• Individualized based on etiology
  – Medication Review
  – Cognitive impairment
  – Sleep/wake cycle disturbance
  – Immobility
  – Visual/Hearing impairment
  – Pain
  – Nutrition
  – Dehydration
**NO pharmalogical intervention to treat delirium **

- Look for Organic Pathologies—What is the cause?
- De-prescribe—BEERs Criteria
- Reduce dosing or hold certain home medications based on presentation:-hypo/hyper
Treatment

Trazodone

• Insomnia; Other antidepressant
• Mechanism of Action—exact unknown; antagonizes serotonin receptors; inhibits serotonin reuptake
• Common reaction—somnolence
• At a low dose 12.5 - 25mg this will aid sleep, insomnia with associated agitation is often a symptom of delirium
Antipsychotic Medications

Assess for side effects: arrhythmias, EPS, Anticholinergic effects

- **Typical Antipsychotic**
  - Haloperidol - Tab, IM inj, IV inj

- **Atypical Antipsychotics**
  - Quetiapine (Seroquel®) - Tab, Suspension
  - Ziprasidone (Geodon®) - Cap, IM inj
  - Risperidone (Risperdal®) - Tab, ODT, Solution
  - Olanzapine (Zyprexa®) - Tab, ODT, IM inj
- Sedation, Hypnosis
- Amnesia with normal doses
- Onset 5-20 minutes, half-life 8-15hrs
- Delayed emergence from sedation
  - Hepatic dysfunction
Lorazepam link to Delirium

*Anesthesia (2006). 104 (1), 21-26*
Antipsychotic Medication for Prevention and Treatment of Delirium in Hospitalized Adults: A Systematic Review and Meta-Analysis

Karin J. Neufeld, MD, MPH, a Jirong Yue, MD, a Thomas N. Robinson, MD, MPH, a Sharon K. Inouye, MD, MPH, a*†‡b and Dale M. Needham, MD, PhD†‡b

OBJECTIVES: To evaluate the effectiveness of antipsychotic medications in preventing and treating delirium.

DESIGN: Systematic review and meta-analysis.

SETTING: PubMed, EMBASE, CINAHL, and ClinicalTrials.gov databases were searched from January 1, 1988, to November 26, 2013.

PARTICIPANTS: Adult surgical and medical inpatients.

INTERVENTION: Antipsychotic administration for delirium prevention or treatment in randomized controlled trials.

RESULTS: Screening of 10,877 eligible records identified 19 studies. In seven studies comparing antipsychotics to placebo or no treatment for delirium prevention after surgery, there was no significant effect on delirium incidence (OR = 0.56, 95% confidence interval (CI) = 0.23–1.30, I² = 93%). Using data reported from all 19 studies, antipsychotic use was not associated with change in delirium duration, severity, or hospital or ICU LOS, with heterogeneity among studies. No association with delirium withdrawal was detected (OR = 0.90, 95% CI = 0.46–1.78).
Suggests antipsychotics do not improve outcomes when used as prevention or treatment
- Hospitalized adults
- Short term mortality
- Shorter duration of delirium
- ICU stay
- Hospital stay

Insufficient evidence to support the routine use of antipsychotics to prevent or treat delirium in the hospital setting
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ACE Team Model
Acute Care for Elders

Designed to:

1. Prepare environment to promote mobility and orientation
2. Promote care with nursing initiated protocols
3. Develop plans for returning to previous level of care
4. Review medical care to promote optimal prescribing for older patients

Malone et al, 2014. Acute Care for Elders
ACE Model

- Collaborate
- ____________________
- Communicate
Outcomes of ACE involvement:

- Reduction in HAC - falls, skin breakdown, delirium
- Reduce functional decline
- Reduce hospital stay
- Reduce readmission rates

ACE at IU Health West

- Consult service and Multidisciplinary
- 65 years and older
- MD and CNS
Consultation for management of geriatric syndromes:

- Delirium
- Cognitive Impairments/Dementia
- Depression/Anxiety
- Insomnia
- Gait Disturbances/Falls
- Pain
- Decreased Oral Intake/Anorexia
- Urinary/Fecal—incontinence, constipation, retention
- Long term goal planning discussions
ACE Consult

- Delirium-what is organic pathology?
- Review Labs
- Review Events Prior to Admission
- Review Supportive Care-Delirium Protocol Interventions
- Medication Review-
  - De-prescribe
  - BEERs
  - Manage hyperactivity or hypoactivity
Family Interview---this is key!

- Memory Loss Symptoms
- Functional Status—who helps? Falls?
- Changes in medications, Recent Antibiotics

- Components of Stress and Coping
  - Lazarus & Folkman
Tools

- ciotns.org>student>online resources
- AGS iGeriatrics
- Geriatrics at Your Fingertips-$$
- Epocrates
Outcomes: ACE Consult for Hip Fractures

Pre/Baseline

Jan 1, 2016 - May 30, 2016

- Average time from admission to ACE consult 2.1 days
- 8/10 patients seen day of consult
- 2/10 seen second day
- LOS 8.04

Post

July 20, 2016 – Oct. 9th 2016

- Average time from admission to consult 1.4 days
- 9/10 seen day of consult
- LOS 6.3
Delirium with Underlying Dementia
Delirium with Underlying Dementia

- Most vulnerable population for delirium
  - Non-pharm interventions
  - Identify organic pathology
  - Limit/reduce contributing factors
  - Hold medication until delirium symptoms improve
Cholinesterase Inhibitors

- Donepezil (Aricept)
- Rivastigmine (Exelon)

Action: inhibits the acetylcholinesterase enzyme from breaking down acetylcholine

-Acetylcholine is a neuromodulator-alters the way brain structures process information

-plays a role in arousal, attention and motivation

Uses in Alzheimer’s: apathy, cognitive symptoms
Memantine (Namenda)

Action: Binds N-methyl D-aspartate receptors.

May slow Calcium ion influx and nerve damage
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Antidepressants
Antidepressants

SSRI (Selective Serotonin Reuptake Inhibitor)

- Escitalopram (Lexapro)
- Sertraline (Zoloft)

SNRI (Serotonin Norepinephrine Reuptake Inhibitor)

- Duloxetine (Cymbalta)
Norepinephrine

- Alertness
- Energy
- Focus

Dopamine

- Motivation/Drive
- Pleasure
- Reward
- Attention
- Basal Emotion

Serotonin

- Comfort/Empathy
- Self-Esteem
- Sociability
- Appetite/Sleep

Common Emotions

- Anxiety
- Impulse
- Irritability

Mood/Cognition

- Attention

Self-Esteem

- Appetite/Sleep
Final Remarks
T-A-DA Approach

• Tolerate
  – Tolerate as much as possible-the behavior or agitation

• Anticipate
  – Anticipate what typically agitates the person

• Don’t Agitate
  – If you notice certain things tend to agitate the person, then avoid those things if possible
Compassion

- This is a person, not a patient
- Support the family
- Recognize the vulnerability of these people.
- Realize they are not responsible for their actions.
- Understand that you can make a difference in these people’s lives.

Toye et al. *International Journal of Older People Nursing* 9: 200-208
Thank you

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References available-contact me