DELIRIUM AND TERMINAL RESTLESSNESS

Sabooh S. Mubbashar, M.D.
Sr. Behavioral Health, Sharon Hospital

DELIRIUM

Delirium: acute decline in attention and cognition, onset of fluctuating attention and confusion, usually linked to one or more triggers.

Delirium Classification:

- hyper-active delirium characterized by agitation, aggression, and hallucinations;
- hypo-active delirium characterized by somnolence;
- mixed delirium characterized by features from both sub-types.

Other signs include: moaning, facial grimacing, fluctuating level of consciousness, incoherent speech, changes in sleeping patterns, erratic emotions, confusion, and disorganized activity.

Terminal delirium occurs in the last hours and days of life, often as a result of end-stage organ failure and other irreversible factors.

DELIRIUM

Epidemiology of delirium

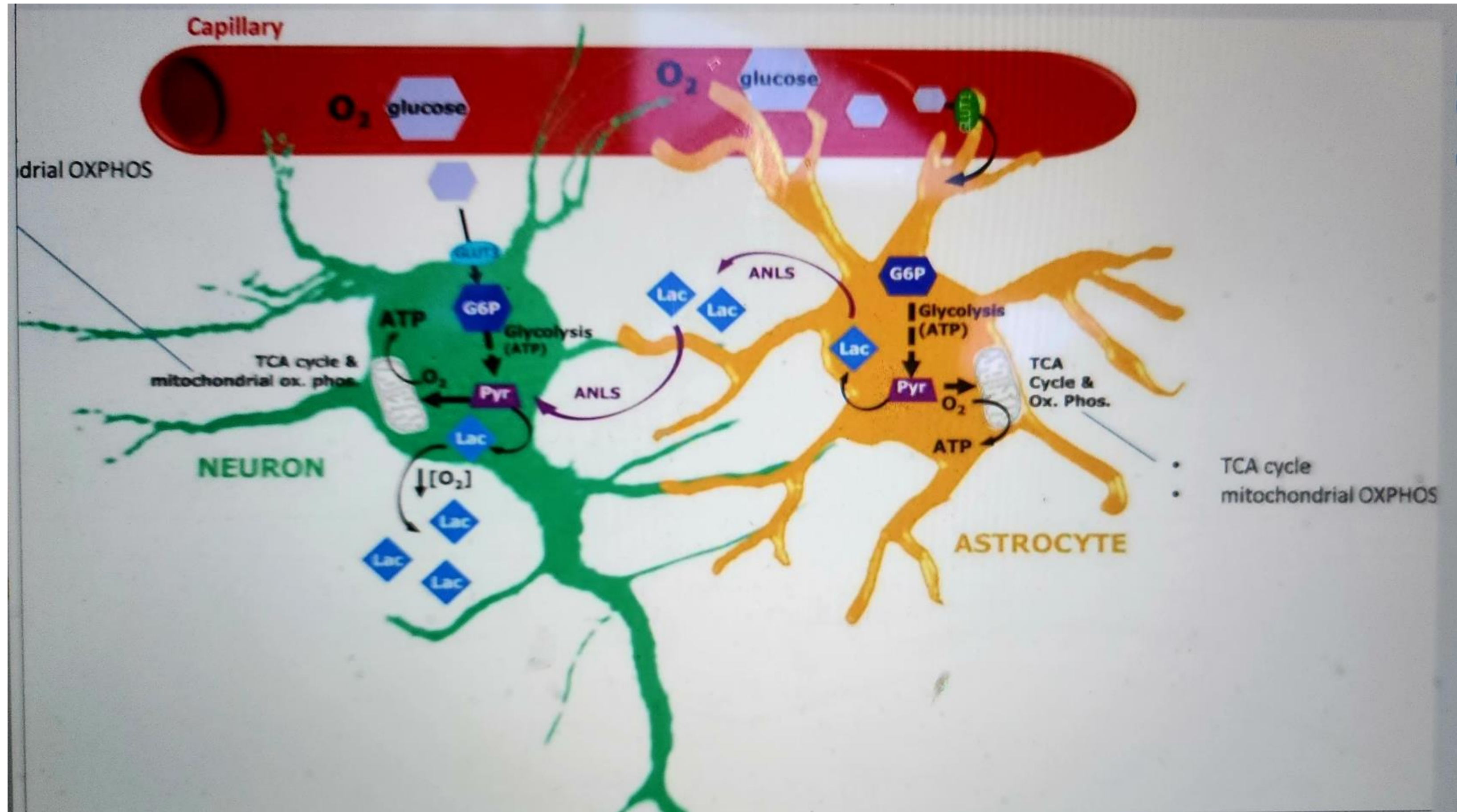
- Present at the time of admission in hospitalized patients 14-24%
- Incidents of delirium during admission 6-56% in general hospital population, 15-53% of older patients
- Postoperatively, 70-87% in ICUs,
- Up to 60% in nursing homes
- Up to 83% at the end of life.

Predisposing and most notable risk factors: Males , age more than 65 , impaired cognitive status including dementia, history of delirium, and depression. Low functional status including immobility, low level of activity, and a history of falls.

Other considerations that frequently get overlooked:

- History of sensory impairments including: vision and hearing
- Dehydration and malnutrition
- Drugs, psychoactive drugs, NSAIDs, steroids, opioids, epilepsy medications
- Comorbidities including: sepsis, trauma, respiratory and renal failure, metabolic abnormalities, terminal illness, HIV aids, and advanced coronary artery disease

PROPOSED PATHOPHYSIOLOGY OF DELIRIUM



DELIRIUM,
IN CONTEXT OF ADVANCED DEMENTIA

- According to 2019 estimates, there are 5.8 million people with a diagnosis of Alzheimer's dementia. Of these, 5.6 million people are above age 65 and 2/3 are women.
- Dementia cases projected for 2050: **up to 14 million Americans.**
- Between 2000 to 2017 Alzheimer's related death increased by a 145%.
- Someone new develops dementia every 65 seconds in United States.
- One in three older adults die each year with the diagnosis of dementia. A diagnosis of dementia can cut one's life expectancy in half. Dementia is the leading cause of death in people over 65. More than 500,000 deaths a year in the US are attributed to dementia.
- Important to identify dementia etiology/ type, as symptoms and treatments can vary.
- Dementia Prevelance: Alzheimer's disease 50-75%, Vascular 20-30%, Lewy Body 10-25%, and frontotemporal 10-15%. Mix dementias with prevalence unknown.

GLOBAL DEMENTIAS AND DEMENTIA-SPECIFIC SYMPTOMS (ADVANCED STAGES)

Dementia related behaviors include:

- Thought disturbances , delusions, paranoia, and hallucinations
- Mood disturbances, anxiety, depression, and irritability
- Activity disturbances, agitation, aggression, wandering, purposeless hyperactivity, apathy, impulsivity, socially inappropriate behaviors, sleep-wake cycle problems, and repetitive behaviors
- Hallucinations more common in Lewy Body dementia
- Frontotemporal dementia with loss of executive control, as well as wandering, social inappropriateness, and apathy.
- Depression more common in vascular dementia.

CONSIDERATIONS FOR CONTRIBUTORS TO BEHAVIORAL SYMPTOMS

Physical symptoms including pain and shortness of breath

Medical Illness e.g. infection, and constipation

Unmet needs hunger, thirst, and cold

Sensory impairment poor vision and hearing deficits

Pharmacological caffeine and benzodiazepines

MANAGEMENT OF BEHAVIORAL MANIFESTATIONS OF DELIRIUM/ DEMENTIA AND/OR BOTH

PHARMACOLOGICAL MANAGEMENT

- Antipsychotic
- Antidepressants
- Benzodiazepines
- Mood stabilizers
- Cognitive enhancers including NMDA antagonist, and acetylcholinesterase inhibitors
- Cannabinoids
- Dextromethorphan/Quinidine

ANTIPSYCHOTICS

Antipsychotics: best studied pharmacological intervention for dementia related agitation, modest efficacy across trials and agents including typical and atypical, substantial side effects and black box warning. Extreme caution in LBD and Parkinson's disease patients.

Antipsychotics usually used:

- **Risperidone:** higher incidence of extrapyramidal symptoms
- **Olanzapine :** weight gain, and hyperglycemia
- **Quetiapine:** sedating, but less extrapyramidal
- **Aripiprazole**: can be paradoxically activating, akathisia
- **Haloperidol**: higher incidence of extrapyramidal symptoms
- **Chlorpromazine:** very sedating

Some studies detail no difference in efficacy between typical and atypical antipsychotics, although typical with somewhat greater side effect burden.

ANTIDEPRESSANTS

Antidepressants most well studied: Citalopram and Trazodone

Trazodone : small randomized control trials with some benefits dosing 25 mg to 50 mg bid/ tid. Adverse effect orthostasis, syncope, hypertension, SIADH, somnolence, and QTc prolongation.

Citalopram: starting dose up to 10 mg to 40 mg recommended twice daily dosing onset of action within a week in one study. QTc prolongation dose dependent above 20 mg.

ANXIOLYTICS

Some incidents of paradoxical agitation, increased falls, worsening confusion, excessive sedation

Benzodiazepine of choice

- **lorazepam** half-life 12 hours, 0.5 to 2 mg two to three times a day
- **diazepam** half-life 20-50 hours, 2 mg to 10 mg two to four times a day
- **alprazolam** half-life 16 hours, 0.25 mg to 3 mg two to four times a day
- **clonazepam** half-life 30 to 40 hours, 0.25 mg to 5 mg two to three times a day

OTHERS

- **Dextromethorphan-Quinidine** indicated in pseudobulbar/primarily with vascular dementia related mood lability. Side effects falls, UTI, diarrhea, dizziness, and potential QTc prolongation.
- **Cannabinoids/THC/ Dronabinol (not to be confused with CBD products)**
- **Mood Stabilizers** Valproate
- **Cognitive Enhancers** Donepezil

Delirium Management-Non-pharmacological

- Calm and comfortable environment, frequent reorientation, and if possible involve family members (if observed to be effective), limit room and staff changes, open and close blinds appropriately
- Use music, massage, relaxation, and meditation. In case of sensory deficits use hearing aids and eye glasses.
- Attempt to keep sleep-wake cycle as normal as possible.
- Additional management considerations: stop unnecessary medications, stop offending medications, create peaceful and reassuring words and environment.

TERMINAL RESTLENSSNESS

- Terminal restlessness, clinical spectrum of unsettling behaviors in the last few days of life including restlessness, fidgeting, purposeless, uncoordinated movement, tossing and turning, moaning and groaning, grimacing, trying to get out of bed.
- Additional signs could include myoclonus, jerks, twitches, and confusion.