Delirium

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Definition: disorder that develops acutely which alters awareness and attention and tends to fluctuate (DSM-5)

Synonyms

- Most commonly preferred synonym: Acute confusional state: by most specialties
- Other synonyms: Altered mental status, Toxic or metabolic encephalopathy

Types of Delirium

- **Hyperactive**: agitated. (25% of the patients present this way)
- **Hypoactive**: will show apathy and withdrawn. (at least 75% of the patients present this way so underrecognized)

Prevalence and Incidence

Can occur in anyone who is acutely sick and/or hospitalized
Common in the elderly
1/3 of patients >70 years get delirium when admitted to the hospital: ½ of these patients are delirious on arrival and ½ develop while in the hospital
¾ of patients admitted to the ICU have prevalence of delirium especially in the elderly
10-15% of the patients coming to ED
15% of new admission to skilled nursing facilities meet criteria for delirium
1-2% of the patients are delirious in the community
Meta-analysis showed poorer outcomes with increased risk of death, institutionalization and dementia: this was more common in persistent (lasting weeks to months after discharge from hospital)

Pathophysiology (Two proposed mechanisms)

- Cholinergic Deficiency
- Inflammation: particularly seen in post-op patients and cancer patients; CRP, IL-1β and IL-6 as well as TNF-α are elevated which can break the blood brain barrier and cause damage to the neurons causing delirium

Risk Factors

Predisposing Factors	**Acute Factors**
Age	Medications
Male	Surgery
Sensory impairment (vision and hearing)	Pain: under or over controlled
Dementia	Low Hematocrit level
Depression	Indwelling devices
Functional impairment in activities of daily living	Physical Restraints
Multiple medical conditions	

Differential Diagnosis

Dementia, Depression, Acute Psychiatric Syndrome are the most common ones
It is sometimes hard to differentiate between these differentials vs delirium because they can coexist
Dementia: an important and independent risk factor for delirium
Depression can be confused with hypoactive delirium
Acute psychiatric syndrome can be confused with hyperactive delirium
The most important aspect of history taking in this situation should be to identify patient's baseline status by speaking to caregivers and family members

Causes of Delirium

D: drugs
E: electrolyte abnormalities
L: lack of drugs- like sedatives, alcohol
I: infection (Urinary tract infection or respiratory tract)
R: reduced sensory input (poor vision or poor hearing)
I: intracranial (infection, stroke, tumor)
U: urinary or fecal incontinence, urinary retention or fecal impaction
M: myocardial or pulmonary causes

Evaluation

History

History should focus on the timeline, precipitating factors, thorough medication review including any new medications added or dose adjustments

Physical Exam: focus on vitals signs, pulse oximetry, any focal changes in the exam

Labs/Diagnostic Studies

CBC, CMP, Urinalysis, Drug Screen, medication levels as appropriate, Arterial blood gas

CXR: to rule out infection or heart failure exacerbation

EKG: to rule out MI

CT head: if concerns for stroke

Confusion Assessment method (CAM): CAM severity scales to assess the severity of delirium

Long form: 10 CAM features (Score of 0-19 with 19 being the worst)

Short Form: 4 CAM (Score of 0-7 with 7 being the worst)- most commonly used

1 + 2 and 3 or 4 have to be present

- acute change or fluctuating
- inattention
- disorganized thinking
- altered level of consciousness

CAM ICU: used for ICU patients who are intubated and does not require much verbal response

Treatment

Non-pharmacological

Provide orientation with clocks, calendars and windows

Feeling of safety: encourage family members or someone familiar to stay overnight

Eyeglasses and hearing aids as applicable for patients who use them

AVOID RESTRAINTS

Pharmacological

Antipsychotics

Off label use: risk vs benefits have to be considered because of high mortality associated with these medications especially if there is undiagnosed or underlying dementia

Haldol and Risperdal: less sedating but concern for extrapyramidal symptoms

Olanzapine and Seroquel: more sedating but less concern for extrapyramidal symptoms.

If they have to be used: start with low dose as needed especially in the elderly

Pearls

Important to distinguish between hyperactive vs hypoactive delirium: hypoactive delirium carries a higher mortality and underrecognized

Adequate pain control is essential to prevent post-op delirium

Avoid starting any new medications that can exacerbate delirium.

Eliminate any medication that can worse delirium: anticholinergics, antihistamines, antidepressants with anticholinergic properties etc.

Non-pharmacological measures have been more effective than pharmacological but avoid restraints

Avoid Benzodiazepines to treat agitation associated with delirium or insomnia

If medication has to be given: give a low dose which is effective especially haloperidol

References

http://www.hospitalelderlifeprogram.org/uploads/disclaimers/CAM-S_Short_Form.pdf

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