Introduction to:

Neuropsychiatric Disorders

Done By:
Nada Alouda & Raghad Almutlaq

Reviewed By:
Ibrahim Abunohaiah & Abrar AlFaifi

- **Important**
- **Additional information**
- **Female doctor's notes**

❖ **This bullet means it is not in male slides**

Mind Map

Nueropsychatric Disorders

- Cognitive Disorders
  (Epidemiology-Etiology-Diagnosis-Management)
  - Delerium
  - Dementia
  - Amnestic Disorder
- Definition+Cognitive functions

Definitions

The following terms will be mentioned in the lecture followed by examples:

1- **Cognition:** includes memory, language, orientation, judgment, conducting interpersonal relationships, performing actions (praxis), and problem solving.

2- **Global cognitive impairment:**
More than one of cognitive functions impaired.

3- **Perceptual impairment (illusion)**: Misinterpretation of real (existent) stimulus.

Examples*: 1. A patient in an ICU & during the night he sees IV line (which is real stimulus) as a person trying to kill him (misinterpretation).*
2. Seeing a rope as a snake in a dark night.

4- **Hallucination:** Misinterpretation without existence of a real stimulus. It differs from illusion and has two types:
   1. Visual (more common in delirium).
   2. Auditory.

Examples: *1.The patient sees every night 5 masked men want to kill him (the patient). However, there is NO real stimulus in the room that makes the patient seeing those men.*
2. The patient hears sounds that don't exist.

5- **Disturbed thought (delusion):** False thought & belief with poor evidence to support this wrong thought.

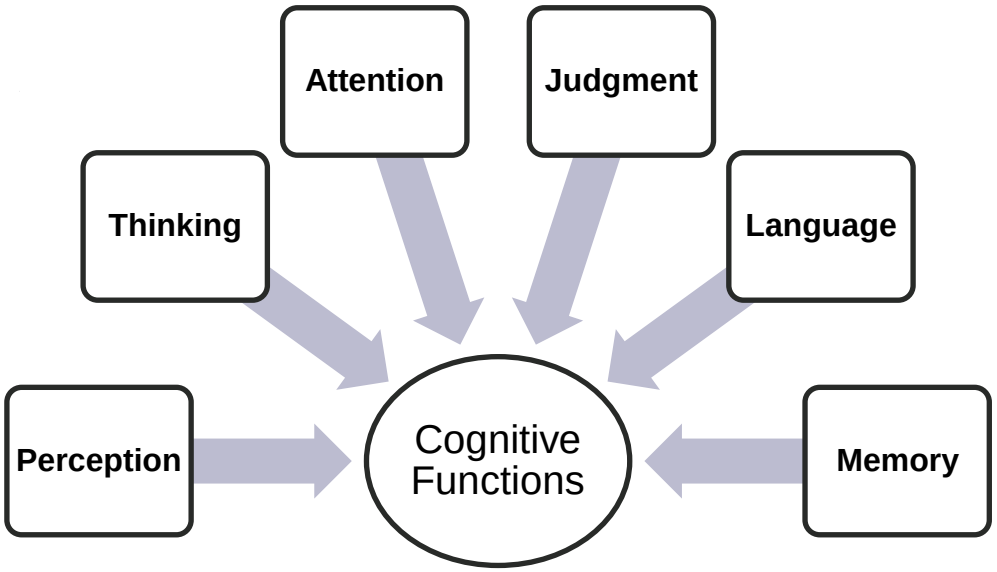
Example: *The patient thinks that there are 3 men following him (there is no such thing).*

6- **Emotional liability:** Excessive emotional reactions and frequent mood changes.

Example: *The patient is agitated, yell, wander the hallways, and enter other patient's room.*

Neuropsychiatric disorder it is the **medical science** dealing with both **organic** and **psychic disorder** of the nervous system.

It's characterized by disturbance in cognitive functions.



Significant impairment

Cognitive Disorder (it is characteristic to **significant impairment** of cognitive function). This impairment represents a change from base line.

Cognitive Disorders

- Reflect disruption in one or more of the above domains, and are also frequently complicated by **behavioral symptoms**.
- Represent the complex interface between **neurology**, **medicine**, and **psychiatry**.
- Was named as organic mental disorders or organic brain disorders (because there is impairment in the brain) vs functional disorders (because there is impairment in function of the brain).
- Advances in molecular biology, diagnostic techniques, and medication management have **significantly improved the ability to recognize** and to **treat** cognitive disorders.

1) Delirium

Definition:

It is an **Impairment of consciousness** (short-term confusion and changes in cognition). It is an acute reversible condition. It's defined as transient, reversible, global cognitive impairment. It's treated as medical emergency.

❖ *Clinical Manifestation:*

- It manifests with wide range of neuropsychiatric abnormalities.
- **The clinical hallmarks** are decreased attention span and **impaired consciousness (confusion)**.

❖ *Features of Delirium:*

- **Disorientation** (confusion) to time, place and person, memory (in any type of memory) and **perceptual impairment** (illusion).
- Usually accompanied by **disturbed thought (delusion)** and speech (non-clear words), emotional liability, hallucinations or illusions and in-appropriate behavior.

❖ *Example/others:*

- **Disorientation to time e.g.** if the doctor asked the patient about time (assume it is morning) the patient would say it's evening.
- In-appropriate behavior e.g. the patient will pull IV lines out, he will be physically or verbally aggressive, & frequently try to leave the hospital.

❖ Types of Delirium from female Doctor's notes	
Hyperactive	The patient may become **physically aggressive** at any moment, and become dangerous to other patients and staff. They can become **extremely agitated**, yell, call out for help, wander the hallways, and enter other patient's rooms.
Hypoactive	The patient will often appear sluggish, **lethargic** or comatosed, to the point of **stupor** (irresponsive to environmental stimuli; insensitive). The patient is calm, not causing any disturbance on the medical floor.
Mixed	"Double trouble." this is because you have a combination of hypo-active and hyperactive types, and you never know when the patient will change from one to the other. These patients are the most challenging of the three types.

Epidemiology

- **Common among hospitalized patients**, about 10% of all hospitalized patients.
- **Very young** and **elderly** are more susceptible to delirium.
- Patients with **history of delirium** or **brain injury** are more likely to have an episode of delirium than the general population.

Etiology: Most of it is due to problems outside CNS.

- Major causes include systemic disease, CNS disease, and either intoxication with or withdrawal from prescribed medications or drug of abuse.
- Delirium is thought to involve dysfunction of reticular formation and acetyl-choline transmission (deficiency).
- Noradrenergic hyperactivity has been associated with alcohol withdrawal delirium (it's noradrenergic not Ach).
- Organic failure such as liver & renal diseases.
- Electrolyte imbalance can cause delirium.
- Endocrine impairment.

Diagnosis:

Diagnosis (according to etiology)

- Delirium due to medical condition (diseases)
- Substance intoxication delirium
- Substance withdrawal delirium

E.g. a patient who is alcoholic admitted to hospital for a surgery & he developed delirium postoperatively. To know the cause of delirium we need to know the history, urine sample (to look for alcohol)... because the etiology might be due to complication of the surgery or anesthesia.

Key features for diagnosis: disturbance of consciousness, change in cognition, or the development of perceptual disturbance, over a short period of time and tend to fluctuate during the day.

Management: **Laboratory Tests**: Delirium is a medical emergency; its causes must be identified as quickly as possible.

Treatment: Since delirium is reversible, identify and treat the underlying cause.

Examples:

- If the patient is alcoholic (withdrawal delirium) → benzodiazipine (gradual & in small dose because it has similar action of alcohol).
- If the patient has delirium due to electrolyte imbalance → correct & restore electrolyte balance.
- If the patient has delirium due to hypoxia → Oxygen.
- If the patient has delirium due to hypothyroidism → Thyroxin.

2) Dementia

Definition:

(de: without, mentia: mental abilities) It is a **chronic** global impairment of cognitive functions. Mainly **memory loss**, consciousness **is not** impaired. The major defects involve orientation, memory, perception, intellectual functioning, and reasoning.

❖ *Features of Dementia:*

Early Stage (reversible):	Late Stage:
• **Change in:** emotions, affect, personality & judgment. • **Loss of:** social and intellectual (mental) skills. • **Impairment of:** memory	• **Change in:** personality, affect & sometimes behavioral problems. • Disorientation • Catastrophic reaction (disturbance in emotions) • Defect in language and thought • The Defects represent a change from baseline and interfere with functioning

Manifestations:

Marked changes in personality, affect, and may be associated with behavioral problems. It is usually accompanied with delusion (30-40%) and hallucination (20-30%) and 40-50% symptoms of depression and anxiety. **NO illusion!**

Epidemiology:

Aging is the most important risk factor, 15% of cases can be treated (reversible).

Etiology:

1) Most common: **Alzheimer disease** (50-60%) 2nd common cause vascular disease.
2) Other causes: head trauma, alcohol, HIV, movement disorders (such as Huntington's disease and Parkinsonism).

Diagnosis: According to the cause:

- **Alzheimer:** usually >65 years, progressive intellectual disorientation (due to degenerative changes in the whole cortex, especially in cholinergic neurons).
- **Vascular dementia:** caused by thrombosis or hemorrhage.
- **Other medical conditions:** TB, HIV, head trauma, Pick's disease, Creutzfeldt-Jacob disease (which is caused by a slow growing transmittable virus), vitamin B12 deficiency and hypothyroidism.
- **Substance and drugs:** (e.g., alcoholic dementia, gasoline fumes, atropine).
- Multiple etiologies.
- Not otherwise specified (if cause is unknown).

Management:

- Treat potentially reversible causes of dementia (hypothyrodisim, CNS syphilis, subdural hematoma, vitamin B12 deficiency, uremia, and hypoxia).
- Identify other treatable medical conditions that may worsen dementia.
- Supportive measures **to the patient and care givers**.
- Maintain proper nutrition, exercise and daily activities.
- Provide an environment with frequent cues for orientation to the day, date, place and time.
- As functioning decreases, nursing home placement may be necessary.

Course and Prognosis:

- Dementia may be **progressive**, **remitting**, or **stable**.
- In reversible causes of dementia, the course depends on **how quickly the cause is reserved.**
- For Dementia of Alzheimer's type course is likely to be slow deterioration.

How to differentiate between Delirium and Dementia?

Delirium	Dementia
• **Acute** • **Rapid onset.** • **Duration: days/weeks.** • Fluctuating course, often reversible. • Fluctuating level of consciousness. • Agitation or stupor. • In medical, surgical and neurological wards.	• **Chronic** • **Insidious onset.** • **Duration: months/years.** • Progressive course, majority irreversible. • Level of consciousness Normal early on. • Normal level of arousal. • Usually in nursing homes and psychiatric hospitals.

3) Amnestic Disorder

Definition:

Impaired recent short and long term memory attributed to a specific organic cause (drug or medical disease). Patient is **NORMAL** in other areas of cognition.

Diagnosis:

- Impairment of memory = impairment in the ability to recall previously learned information → leads to significant impairment of social and occupational activities.
- This memory impairment doesn't occur during the course of delirium or dementia.
- The disturbance is due to a disease or substance.

Etiology:

- Typically any process that damages certain diencephalic structures (limbic system, hypothalamus, and thalamus) and temporal structures (mammillary bodies, fornix, and hippocampus) can cause this disorder.
- Most common form is caused by thiamine deficiency associated with alcohol dependence (wernicke-kosakoff syndrome).
- Many also caused by: head trauma, tumor, surgery, hypoxia, infraction, seizures and herpes simplex encephalitis.

Management:

Identify the cause and reverse it if possible, otherwise, institute supportive medical procedures.

Notes:

Delusion

- False thought & belief with poor evidence to support this wrong thought.

Hallucination

- Perception in the absence of real external stimuli:
- e.g. hearing a voice of someone when nobody is speaking within the hearing distance.

Illusion

- Misperceptions of real external sensory stimuli:
- e.g. shadows may be misperceived as frightening figures

Abnormal thought Content.

Abnormalities of Perception

For any questions, suggestions or problems, please contact us

432psychiatryteam@gmail.com

Psychiatry 4 3 2

Good Luck!