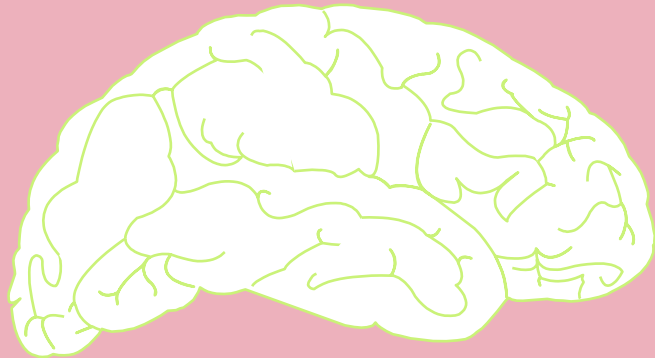




**Introduction to
neuropsychiatric disorders**





Definitions and terminology:

هذه التعاريف تمت إضافتها لتوضيح معاني المصطلحات الجديدة وليسهل التفريق بينها

◆ **Cognition** – السلوك المعرفي أو الإدراكي:

Is the mental action or process of acquiring knowledge and understanding.

◆ **Dementia** - الخرف:

Is a progressive decline in memory and at least one other cognitive area in an alert person. These cognitive areas include attention, orientation, judgment, abstract thinking and personality.

◆ **Delirium** – الهذيان:

Is a serious disturbance in a person's mental abilities that results in a decreased awareness of one's environment and confused thinking.

◆ **Hallucination** - الهلوسة:

Is a perception in the absence of external stimulus that has qualities of real perception. Hallucinations might be visual or auditory. تخيلات مع غياب المحفز. (مثل سماع المريض لأصوات غريبة، كأن أحد يناديه أو يهدده)

◆ **Illusion** - الوهم:

Misinterpretation of real (existent) stimulus. تخيلات مع وجود محفز. (المريض قد يتخيل قطة، تخيلات مع وجود محفز. أسد يهاجمه)

◆ **Delusion** - الضلالات:

False, fixed, and unshakeable beliefs.

المريض يعتقد أن شخص حقيقي (جاره مثلاً) أنه يكرهه أو أن يؤمن أن العالم ضده

◆ **Emotional liability**:

Excessive emotional reactions and frequent mood changes



Cognition - الوظائف الإدراكية أو المعرفية

- ◆ It includes: memory, language, orientation, judgment, conducting interpersonal relationships, performing actions (**Praxis***), and problem solving.
- ◆ In cognitive disorders there can be a damage to **ONE** or **MORE** of these functions.

* NOTICE THAT:

- To say that a person has a cognitive disorder there has to be **a change in the base line.**

(e.g: boy with Down syndrome at the age of 7 y/o wasn't able to button his shirt, and at the age of 15 y/o he still cannot learn how to button it, in this case we **CANNOT** say that this patient is having a cognitive disorder, because his abilities **DIDN'T** really decline)



* قدرة الشخص على القيام بعمل كان يُجيد فعله (مثلا عندما تطلب من شخص ما أن يرسم ساعة؛ سيرسم دائرة وبادخلها أرقام من ١-١٢ بينما الشخص المريض قد يرسمها ويكتب الأرقام من ١-٩ و ينسى باقي الأرقام، أو يكتب بعض الأرقام داخل الساعة وبعضها خارجها)

باختصار: هي قدرة الشخص على أداء الحركة أو الفعل بشكل منطقي وصحيح



Cognitive disorders

- ◆ Are characterized by **significant impairment in functions** such as memory, judgment.. etc
- ◆ Represent the complex interface between **neurology, medicine, and psychiatry.**
- ◆ Frequently complicated by **behavioral symptoms.**
- ◆ 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).
- ◆ It can be argued that of all psychiatric conditions, cognitive disorders best demonstrate how biological insults result in behavioral symptomatology. The clinician must carefully assess the history and context of the presentation of these disorders before arriving at a diagnosis and treatment plan.
- ◆ Advances in molecular biology, diagnostic techniques, and medication management have significantly improved the ability to recognize and to treat cognitive disorders.

* أحياناً: لا يمكن إثبات صحة التشخيص إلا بعد عمل Autopsy -بعد مايتوفى الشخص-



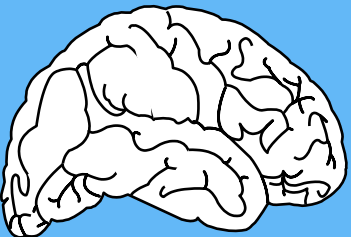
Delirium - الهذيان

- ◆ It's an impairment of consciousness (**short-term, acute, reversible** confusion and changes in cognition)
- ◆ There are 4 subcategories:
 - 1) General medical condition
 - infection
 - 2) Substance induced
 - Cocaine
 - 3) Multiple causes
 - Head trauma and Kidney disease
 - 4) Delirium not otherwise specified
 - Sleep deprivation
- ◆ Usually accompanied by global impairment of cognitive functions, associated with **emotional liability***, hallucinations or illusions and inappropriate behavior.

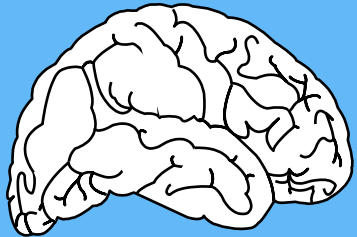
* اضطراب شديد بالمشاعر (يغلب على المريض الخوف والتوتر بدرجة عالية جدًا وأحيانًا يصاحبها العنف)



Delirium



Epidemiology	Etiology
<ul style="list-style-type: none">◆ Common among hospitalized patients (10%)◆ Very young and very old are MORE susceptible◆ Patients with history of delirium or brain injury are MORE LIKELY to have an episode of delirium than general people	<ul style="list-style-type: none">◆ Systemic diseases (e.g: SLE)<ul style="list-style-type: none">◆ CNS diseases◆ Intoxication◆ Drugs withdrawal◆ Delirium is thought to involve dysfunction of reticular formation and acetyl-choline transmission.◆ Noradrenergic hyperactivity has been associated with alcohol withdrawal delirium.
Diagnosis	Management
<ul style="list-style-type: none">❖ According to etiology (Delirium due to medical condition/substance intoxication..etc)❖ KEY FEATURES:<ul style="list-style-type: none">◆ Disturbance of consciousness◆ Change in cognition◆ Development of perceptual disturbance❖ Over a SHORT period of time and the tend to FLUCTUATE during the day	<ul style="list-style-type: none">◆ Laboratory tests: Delirium is a medical emergency, its cause must be identified as quick as possible.◆ Treatment: Identify and treat the underlying cause.



Dementia - الخرف

- ◆ It is characterized by severe multiple cognitive deficits, including memory loss.
- ◆ The major defects include: memory, orientation, perception, intellectual functioning, and reasoning.
- ◆ Consciousness **IS NOT** impaired
- ◆ The defects represent **a change from baseline** and **interfere with functioning**.
- ◆ Commonly accompanied by hallucinations(**20-30%**), and delusions(**30-40%**).
- ◆ Symptoms of depression and anxiety are present in **40-50%** of patients with dementia



Cont'd Dementia = تابع - الخرف

- ◆ Marked changes in personality, **affect***, and may be associated with behavioral problems.
- ◆ Six subcategories:
 - 1) Alzheimer's type
 - 2) Vascular dementia
 - 3) Other medical conditions
 - 4) Substance induced
 - 5) Multiple etiologies
 - 6) Not otherwise specified (unknown cause)

In order to understand the causes of dementia including Alzheimer's disease, a request for autopsy must be made.

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

* **Affect is:** The experience of feeling or emotion. It also refers sometimes to affect display, which is "a facial, vocal, or gestural behavior that serves as an indicator of affect"

Cont'd Dementia = تابع - الخرف



Epidemiology	Etiology
<ul style="list-style-type: none"> ◆ A syndrome of the elderly, 5% of Americans over the age of 65 have severe dementia, and 15% have mild dementia. ◆ Increasing age is the most important risk factor. ◆ 15% of dementia cases are reversible. 	<ul style="list-style-type: none"> ◆ Most common cause is Alzheimer's disease (50-60%) followed by vascular disease. ◆ Other common causes include head trauma, alcohol, movement disorders (such as Huntington's disease and parkinsonism) and HIV infection.
Diagnosis	Management
<ul style="list-style-type: none"> ◆ Six subcategories: <ol style="list-style-type: none"> 1) Alzheimer's type → people over 65 years of age, and is manifested by progressive intellectual disorientation and dementia, delusions, or depression. 2) Vascular dementia → hemorrhage or thrombosis 3) Other medical conditions → HIV, Pick's disease, or Creutzfeldt-Jacob disease (caused by a slow-growing transmittable virus) 4) Substance induced → Toxin or medication (Gasoline fumes or atropine) 5) Multiple etiologies 6) Not otherwise specified → unknown cause 	<ul style="list-style-type: none"> ◆ Potentially reversible causes for the dementia (hypothyroidism, CNS syphilis, subdural hematoma, vit B12 deficiency, uremia, hypoxia). ◆ Identify other treatable medical conditions that may worsen the dementia. <ul style="list-style-type: none"> ◆ Supportive measures. ◆ Treat any underlying medical problems or associated disruptive symptoms. ◆ Proper nutrition, exercise, and daily activities. ◆ Give frequent clues for orientation to day, date, place, and time. ◆ Nursing home placement may be necessary.



How to differentiate between Delirium & Dementia



Dementia

- ❑ History of Chronic disease.
- ❑ 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.

Delirium

- ❑ History of Acute disease.
- ❑ Rapid onset.
- ❑ Duration days-weeks.
- ❑ Fluctuating course, often **reversible**
- ❑ Fluctuating level of consciousness.
- ❑ Agitation or stupor.
- ❑ In medical, surgical and neurological words.



Amnestic Disorder - فقدان الذاكرة

- ◆ Impaired recent **short term** and **long term memory** attributed to a specific organic cause (drug or medical disease) patient is **normal in other areas of cognition**.
- ◆ Amnestic disorders could be **reversible** or **irreversible**.
- ◆ There are **3 subcategories**:
 - 1) Caused by medical condition
→ **hypoxia**
 - 2) Caused by toxin or medication
→ **Marijuana or diazepam**
 - 3) Not otherwise specified



Amnestic Disorder - فقدان الذاكرة



Amnestic Disorder

Diagnosis

- The development of **memory impairment** as manifested by **impairment in the ability to learn new information** or the **inability to recall previously learned information**.
- The memory impairment cause significant impairment in social or occupational functioning.
- The memory impairment **does not occur during the course of a delirium or dementia**.
- The disturbance is due to general medical condition or substance.

Etiology

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

Management

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



QUIZ!!

1/ The transmitter that is affected in a delirium patient is:

- A. ACH
- B. NE
- C. Dopamine

2/ Delirium involves dysfunction in:

- A. Basal ganglia
- B. Reticular formation
- C. Red nucleus

3/ Dementias are commonly accompanied by hallucination:

- A. 10-15 %
- B. 40-45 %
- C. 20-30 %

4/ The key feature for a delirium patient is:

- A. Tend to fluctuate
- B. Disturbance of consciousness
- C. Development of perceptual

5/ Loss of the memory of recent events due to a specific organic cause is:

- A. Amnestic disease
- B. Dementia
- C. Delirium





psychiatry
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Best of luck!