



Introduction to Neuropsychiatric disorders

{ . . وَمَا تَوْفِيقِي إِلَّا بِاللَّهِ . . }

Objective	Color index
<ul style="list-style-type: none">• Delirium.• Major neurocognitive disorders (MCD):<ul style="list-style-type: none">-Dementia.-Amnestic syndrome.• Traumatic brain injury (TBI).	<p>Black : Main content. Gray : Notes. Red : important</p>



Introduction

Cognitive definition:

Is the mental action or process of acquiring knowledge and understanding through thought, experience, and the senses.

Cognitive functions:

Attention, Concentration, Memory, Processing speed, Orientation, Impulse control, Language processing, Executive function. Disorders of which are called "**Neurocognitive disorders**"

Neurocognitive disorders are: According to Diagnostic and Statistical Manual of Mental Disorders, fifth edition (**DSM-5**)

- 1- Delirium.
- 2- Mild Neurocognitive Disorders.
- 3- Major Neurocognitive Disorders:
 - Dementia
 - Amnesic syndrome.

Neurocognitive disorders characterized by:

Cognitive deficits:

- That present in many mental disorders and **neurological disorder**
- Were not present from birth or very early in life.
- Represent a decline from a previously attained level of functioning.

Cognitive Therapy: a type of psychotherapy that is concerned with detection and correction of wrong thoughts & thinking process (negative cognition). **It is not a treatment of cognitive disorders.**

Cognitive Processes: ways of thinking and conclusion formation.



let's start...

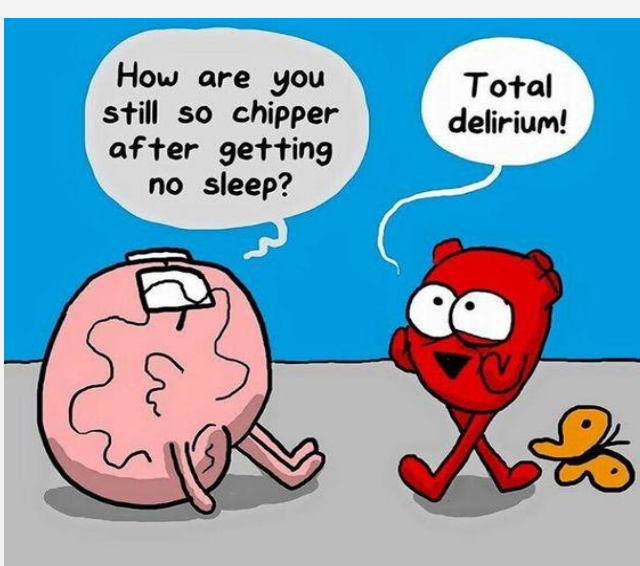


Case 1 : Delirium

75 year old male smoker with long standing history of HTN, DM type 2, hypercholesterolemia, history of BPH and UTI and mild urinary retention. Presented to the ER with 3 days history of low-grade fever, lethargy, and dysuria. He also started to have poor sleep for three days and therefore, his daughter give him unknown medication that she bought from the pharmacy. On the same of ER presentation, he started to have high grade fever and he started to be **confused**.

His daughter stated, that he was **talking non-sense** and it seems that he was **seeing unseen images**. There was **history of fluctuating consciousness** and he was **disoriented to place, person, and time**. There were periods where her father was **less confused** and **less disoriented**. and it seems that he **went back to his normal self**. And there were periods of **complete confusion and disorientation**.

Few hour later, after hospital admission, **He started to be aggressive and agitated, Pulled out his IV lines and Insisted to be discharge from hospital because he was thinking that nursing staff want to kill him.**

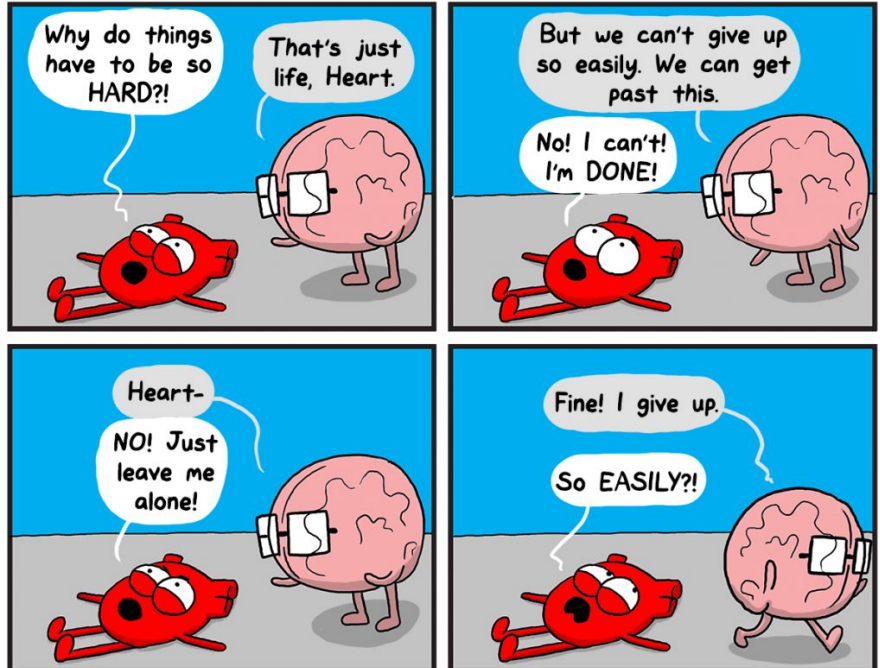
Definition			
Acute transient reversible global Short-term cognitive with impaired consciousness due to a medical problem.			
Usually associated with disturbances in <u>Perception (hallucinations/illusions)</u> , <u>Thinking (delusions)</u> , <u>Affect/Mood (perplexity/ irritability)</u> and <u>Behavior (agitation/aggression)</u> .			
Epidemiology	Clinical features	Diagnostic criteria (DSM-5)	Types
<ul style="list-style-type: none"> It may occur at any age but more in elderly and children¹. Community Prevalence: General: 1-2% more than 85 years old: 14%. 10-30% Hospitalized patients. 10 to >50% Post-Operative Patients. > 90% Post-cardiotomy Patients. 70-85% ICU. 60% in nursing homes or post-acute care settings. 80% at end of life. Delirium complicates at least 25% of all hospitalizations in the elderly 	<ol style="list-style-type: none"> Acute onset of mental status change with fluctuating course. Attentional deficits. Confusion or disorganized thinking. Perceptual disturbances. Disturbed sleep/wake cycle. (sundowning phenomena)² Altered psychomotor activity. Disorientation and memory impairment. Behavioral and emotional abnormalities. Other cognitive deficits  <p>The cartoon shows a pink brain character with a question mark on its forehead. A red character with a speech bubble says 'Total delirium!'. The brain character asks 'How are you still so chipper after getting no sleep?'. The red character replies 'Total delirium!'.</p>	<p>A) Disturbance in:</p> <p>1- Attention (I.E., Reduced ability to direct, focus, sustain, and shift attention)</p> <p>2- Awareness (reduce orientation to the environment).</p> <p>B) The disturbance must be:</p> <p>Develops over a short period (usually hours to days)</p> <p>Represent a change in the baseline attention and awareness.</p> <p>Tends to fluctuate in severity during the course of a day.</p> <p>C) an additional disturbance in cognition:</p> <p>Memory deficit, disorientation, language, perceptual disturbance</p> <p>Disturbance in criteria A and C</p> <ul style="list-style-type: none"> Not due to another preexisting, established, or evolving dementia. Do not occur in the context of a severely reduced level of arousal, (eg coma) There is evidence from the history, physical examination, or laboratory findings that the disturbance is caused by a direct physiologic consequence eg: side effect of drugs <p>Diagnostic criteria simplified :)</p> <ul style="list-style-type: none"> Consciousness is disturbed (i.e., awareness of the environment is impaired but patient not in coma). Cognitive functions are impaired +/- perceptual disturbance (illusions or hallucinations) Acute onset with fluctuating symptoms (within hours during the day) & transient course (few days). Caused by a physical problem (e.g. hypoxia, hypoglycemia, infection..etc) 	<p>1) Hyperactive 30% (most clear and least controversial)</p> <p>Hyperactive psychomotor activity. May have mood lability, agitation, refusal to cooperate with medical care.</p> <p>2) Hypoactive 24% (most difficult type to identify)</p> <p>Hypoactive psychomotor activity. Classically, these patients present with symptoms that resemble depression (lethargy, slowness, decreased level of alertness, and decreased speech production).</p> <p>A large percentage of these patients are inappropriately diagnosed as depressed.</p> <p>3) Mixed level of activity 46% (Classic wax and waning pattern)</p> <p>Commonly seen in surgical patients (agitated at times, with alternating episodes of hypoactivity).</p>

1. Elderly: because of brain atrophy, medical problems, dementia. Children: because the brain isn't developed yet
 2. the symptoms increase after sundown (in the evening).



Case 1 : Delirium

Risks of delirium on the patient	Etiology	Risk factors	Course and Prognosis
<ul style="list-style-type: none"> • Death (due to associated serious medical condition) • Violence toward medical staff. • Self-harm or suicidal risk. • Impaired judgment. • Psychosis. <p>Hospitalization.</p> <p>Why dose a delirious patient become suicidal or aggressive?</p> <ul style="list-style-type: none"> • Due to severe disturbance in the patient's perception, mood, judgment, thinking, and behavior. • Patient may act on hallucinations, illusions or delusional thoughts as if they were genuine dangers (e.g., blood extraction by a nurse might be perceived as an attack). • patient may be excessively somnolent. Other may fluctuate from one state to the other, usually restless at night and sleepy during the day with lucid intervals. 	<p>Mnemonic : I WATCH DEATH</p> <ul style="list-style-type: none"> • Infections (encephalitis, meningitis, HIV, syphilis, sepsis, typhus, malaria) • Withdrawal from substance of the abuse (alcohol, sedative-hypnotic, barbiturates) • Acute metabolic (acidosis, alkalosis, liver/kidney failure) • Trauma (closed head trauma, heatstroke, recent surgery, severe burns) • CNS pathology (abscess, tumor, seizures, hydrocephalus) • Hypoxia (anemia, hypoperfusion due to heart/lung failure, co poisoning) • Deficiencies of vitamins (b12, folate, thiamine, niacin) • Endocrinopathies (Hyper/Hypoglycemia, Hypo/Hyperadrenocorticism, Hyperparathyroidism) • Acute vascular (hypertension, stroke, TIA, arrhythmia) • Toxins (medications, illicit drugs, pesticides, solvents) • Hheavy metal (lead, manganese, mercury) 	<ul style="list-style-type: none"> • > 60 years of age • M=F • Visual impairment¹ • Underlying brain pathology such as stroke, tumor, vasculitis, trauma, dementia • Major medical illness • Recent major surgery • Depression • Functional dependence • Dehydration • Substance abuse/dependence • Hip fixation surgery³ • Metabolic abnormalities • Polypharmacy <p>Medication:</p> <ul style="list-style-type: none"> • Opioids • Corticosteroids • Benzodiazepines • NSAIDS • Chemo Meds 	<ul style="list-style-type: none"> • The course usually <u>short</u> 7-10 days) • Symptoms of delirium usually persist as long as the causally relevant factors are present. • The longer the patient has been delirious and the older the patient, The longer the delirium takes to resolve. • Delirium may spontaneously resolved (usually middle age)or progress rapidly into death. Because of the serious nature of the associated medical conditions. • When underlying cause treated, it usually resolves rapidly. Some residual deficit may persist. • Some patients may develop depression symptoms or post traumatic stress disorder(PTSD)

Delirium differential diagnoses	Investigations:	Treatment/Management
<ol style="list-style-type: none"> 1. Dementia: Occasionally, delirium occurs in a patient with dementia, a condition known as beclouded dementia. However, a dual diagnoses can only made when there is a definite history of pre-existing dementia. 2. Substance abuse: alcohol, inhalants, sedatives, and opioids 3. Amnestic syndrome 4. Acute functional psychosis (brief psychosis, mania, exacerbation of schizophrenia): Patients usually experience <u>no change in their level of consciousness</u> or in their orientation. The hallucination and delusions are more <u>constant and better organized</u> than those of patients with delirium. 5. Severe depression: patients with <u>hypoactive symptoms</u> of delirium may appear somewhat similar to severely depressed patients, but can be distinguished on the basis of EEG (normal in depression) 	<p>Proper assessment of mental functions:</p> <ul style="list-style-type: none"> • Mini-Mental state exam (MMSE)(common)² • MoCA Montreal cognitive assessment (for satisfaction test) <p>There is no specific diagnostic investigation for delirium. all the investigations are for knowing the cause</p> <p>First line investigations:</p> <ul style="list-style-type: none"> • CBC and WBCs • Electrolytes tests. • Liver / Renal function tests • Urinalysis / Blood cultures/Thyroid function / (ECG) / Blood glucose. / Chest x-rays <p>Second line investigations:</p> <ul style="list-style-type: none"> • Drug screen. • Cardiac enzymes • Blood gas (ABG) • Serum folate / B12 • Electroencephalography (EEG) • CSF examinations. • Brain CT scan • Brain MRI 	<ul style="list-style-type: none"> • Ensure patient / staff safety and than Detect the causes & treat it properly. (infection, electrolyte imbalance). • Control mental and physical disturbance with antidopaminergics,e.g. haloperidol (1mg oral, IV, or IM), quetiapine 25mg, or Olanzapine (5mg oral or IM) 2- 3 times/day. • IM administration may be preferable for some patients with delirium who are poorly compliant with oral medications or who are too sedated to safely swallow tablets. • Limit benzodiazepines & Phenobarbital or give with extreme caution) because their effects may increase disorientation, drowsiness and ataxia with possible falls, head trauma and fractures. it cause delirium • Keep the patient in a quiet, well lit-room; avoid over and under stimulation. Frequently reorient, reassure and explain procedures clearly to the patient. • Proper communication and support are critical with these patients 

1. Because of impaired judgment.
 2. The score of delirious patient changes every time because of the fluctuating. But demented patient it's constant. (Both low)
 3. Because the patient takes long time to recovery



Case 2 : Dementia

73 years old lady, she was diagnosed for many years to have DM, HTN, Hypercholesterolemia, and Osteoporosis.

Her family noticed in the last year that she start to be **more isolated and not socially engaging**. She started to be **more forgetful and repeating the same questions** over and over. More recently she started to **misplaces things like her keys and her personal items**. Also, there were few occasions where she **left refrigerator open**.

more recently patient's family discovered that patient is **either not taking her oral medications or taking her medications wrongly**. In addition, she started to be more **irritable and sometimes aggressive** towards her family. She has **poor insight about her current situation**.

Throughout patient's history, There is **no history of loss of consciousness**. And there is **no motor abnormality**. There is no history of abnormal perception or unusual thinking; however, more recently patient started to be more suspicious.

Definition

Progressive cognitive impairment **in clear consciousness**. **Does not refer to** low intellectual functioning/mental retardation because these are developmental conditions.

Cognitive deficits represent: A decline from a previous level of functioning, Involves multiple cognitive domains, Cause significant impairment in social/occupational functioning or both.

Epidemiology & Dementia Presentation

- No gender difference.
- **Increasing age is the most important risk factor**. It is primarily a disorder of the elderly.

Clinical presentation :

- **Memory impairment (short-term memory first then, in advanced stages long-term memory is affected)**.
- Thinking and speech: inappropriate repetition of the same thoughts (perseveration) with vague and imprecise speech.
- Shrinkage of social interaction with other.
- **Disorientation: in advance stage** particular to time and place and when advanced to person (can't identify relatives).
- Judgment impairment.
- Psychotic features: hallucinations and delusions.

Dementias Differential Diagnoses

• Normal aging:

Age-related cognitive decline (the course is not progressively deteriorating), no loss of social or occupational functioning.

• Depression in the elderly (Pseudo-dementia):

Cognitive disturbance is relatively of rapid onset and preceded by depressive features. The differentiation is sometimes difficult as demented patients may also become depressed as they begin to comprehend their progressive cognitive impairment.
EEG and CT scan are normal in pseudo-dementia.


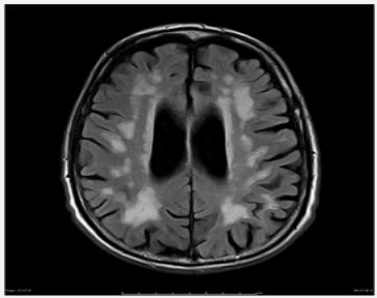
• Delirium:

The onset is rapid and consciousness is impaired. Some demented patients may develop delirium.
Diagnosis of dementia cannot be made before delirium clears.

Dementia vs Delirium

Feature	Dementia	Delirium
Onset	Slow/gradual (except for vascular dementia)	Rapid
Duration to develop	months to years	hours to weeks
Attention	Preserved	Fluctuates
Awareness	Unchanged	Reduced
Consciousness	intact	impaired
Course	Chronic/deteriorating	transient/clears within 7-10 days

Case 2 : Dementia

Causes of Dementia:		
<p>1- Alzheimer's disease (AD) (50-60 %) most common¹</p> <ul style="list-style-type: none"> – Gradual onset and a continuous slow but steady decline in prior intellectual and functional capacities, especially memory. – Age of onset: before age 65 (5%), after age 65 (95%). – Live an average of 10 years following diagnosis. – Risk factors: Old age, female, low education, first-degree relative with AD, cigarette smoking, depression, mild cognitive impairment, and social isolation. <ul style="list-style-type: none"> • <u>Neuroimaging</u> – Cortical atrophy – Wide sulci & gyri – Wide ventricles 	<p>2- vascular (multi-infarct) dementia (10-20 % of dementias):</p> <p>Declining Stepwise deterioration of intellectual functioning due to multiple infarcts of varying sizes or arteriosclerosis in the main intracranial vessels.</p> <p>Risk factors for vascular dementia:</p> <ul style="list-style-type: none"> • Age >60 • Male • Previous stroke <p>Stroke risk factors: HTN, heart disease/atrial fibrillation, DM, Smoking, obesity, and hypercholesterolemia.</p> <ul style="list-style-type: none"> • <u>Neuroimaging</u> Lesions and atrophy of cortical and/or subcortical structures corresponding to infarcts. 	<p>3- Medical conditions (reversible conditions; 15 % of dementias)</p> <p>Referred as reversible dementias, as treating the underlying condition can effectively restore cognitive function back to its previous state.</p> <p>Common causes of reversible dementia:</p> <ul style="list-style-type: none"> • Drugs (benzodiazepines, anticonvulsants, anticholinergics...), alcohol/substance abuse. • Sensory impairments (vision, hearing loss) • Metabolic abnormalities (poorly treated DM) • Endocrinological problems (hypothyroidism) • Nutritional deficiency (vitamin b12 deficiency) • Infections (HIV, neurosyphilis).
<p>4- Lewy Body dementia:</p> <p>characterized by fluctuating in cognition, visual hallucinations, parkinsonian features (tremor, rigidity, gait problems/falls)</p>	<p>5- Frontotemporal dementia:</p> <p>degeneration of the frontal and temporal lobe and characterized by inappropriate behavior (hypersexuality), personality changes, and loss of impulse control.</p>	<p>6- Other type of dementia:</p> <ul style="list-style-type: none"> – Parkinson's disease: 20-30 % of patients with Parkinson's disease have dementia. – Normal-pressure hydrocephalus: progressive memory impairment, slowness and marked unsteady gait (+ urine incontinence in the late stage) – Huntington's disease: intellectual impairments with extra pyramidal features. – Creutz-feldt-jakob's disease. – Traumatic Brain Injury (TBI). – Prion disease.
Investigations	Treatment/management:	Course and prognosis
<p>1- Comprehensive history and physical examination.</p> <p>2- Blood work: CBC with differential, blood glucose, electrolytes, Ca, Mg, vitamin b12, folate, liver and renal function tests. Thyroid. Other tests: serum HIV.</p> <p>3- Neuroimaging: CT scan and MRI</p>	<p>1) Supportive measures:</p> <ul style="list-style-type: none"> • Ensure patient safety • Provide good meals & hygiene. • Encourage family involvement. • Support <p>2) Specific measures: identify and correct any treatable or controllable condition e.g.: hypothyroidism, vitamin B12 deficiency, hypertension, diabetes.</p> <p>3) Symptomatic treatment:</p> <p>I) Agitation/aggression²</p> <p>II) Insomnia</p> <p>III) Depression³</p> <p>4) Cognitive-enhancing medications (mainly for Alzheimer's dementia):</p> <ol style="list-style-type: none"> 1) Cholinesterase inhibitors. (Rivastigmine. Galantamine.Doneorazil) 2) Memantine is NMDA receptor antagonist. 	<p>Depend on the cause:</p> <p>Alzheimer's dementia</p> <ul style="list-style-type: none"> – Shows a progressive slow deterioration. – The patient may become incontinent of urine and/or stool. <p>Vascular dementia</p> <ul style="list-style-type: none"> – Shows stepwise deterioration – Stationary course after a massive stroke that is then followed by a good control of the risk factors e.g., HTN, DM.....etc

1. The Case usually present with Misplacing things & forgetting.
 2. Can be treated with Antipsychotic.
 3. Can be treated with Antidepressants.

Case 3 : Amnestic syndrome

A 48 years old male. Has long standing history of: Hypertension. DM type 2. Hypercholesterolemia
Presented with **significant cognitive and behavioural problems**. He had **difficulty with learning new information** and **making appropriate plans**.
Personal/social history: **smoke tobacco and consume alcohol** on an almost daily basis for many years.

Definition:

Impairment in short term memory retention of new information temporal lobe function (hippocampal pathology) due to a specific organic cause, in the absence of generalized intellectual impairment. It's old terminology is Wernicke–Korsakoff's syndrome

- **characterized by :**
- Impairment in the ability to create new memories
- It leads to social and occupational dysfunctioning.
- The patient may show confabulation (filling memory gaps with incorrectly retrieved information).
- The insight is partially impaired.
- In contrast to delirium, the **immediate memory is usually intact**. digit span test "frontal lobe function is normal.
- In contrast to dementia, **the remote memory is intact**.

Etiology:

- **Head injury lesions**
 - (hippocampus, posterior hypothalamus and nearby midline structures)
- **Thiamine (B1) Deficiency (most common cause)**
 - (associated with alcohol abuse, poor nutrition (e.g., starvation), gastric carcinoma, persistent vomiting, hemodialysis.
 - Thiamine is essential for the enzyme transketolase, which essential for glucose metabolism.

Wernicke-Korsakoff's syndrome

- Is an amnestic syndrome caused by **thiamine deficiency**, most commonly associated with poor nutritional habits of people with chronic alcohol use.
- Wernicke encephalopathy Then Progresses to Korsakoff's syndrome /psychosis.
- **Wernicke encephalopathy**
 - a. **Acute syndrome**
 - i. **Impaired consciousness (confusion)**
 - ii. **Ophthalmoplegia.**
 - iii. **Ataxia**
 - iv. **Memory impairment**
- **Korsakoff's syndrome**
 - a. **Chronic syndrome**
 - i. **Peripheral neuropathy.**
 - ii. **Irritability and personality changes.**
 - iii. **apathy**
 - iv. **Profound anterograde amnesia and inability to form a new memories.**
 - v. **Confabulate or make up information when asked questions.**

Treatment

- Identify and reverse the **cause** if possible.
- **Thiamine supply** (if due to thiamine deficiency)
- Supportive medical measures fluids & nutrition.

Prognosis

- If it is due to thiamine deficiency and thiamine is provided promptly.
 - **Prognosis is good**
- Otherwise, the course is usually chronic and may be progressive.

Case 4: Traumatic Brain Injury (TBI)

Hamad is a 19-year-old male was involved in a **road traffic accident**. He **lost his consciousness** for 5 days, and remained 3 weeks in the hospital. After discharge, his parents noticed that he become Impulsive, Disinhibited. And sometimes aggressive. More recently they noticed that he started to be more depressed and sometimes feeling so anxious

Definition:

An insult to the brain from an external mechanical force, possibly leading to permanent or temporary impairment of cognitive, physical, and psychosocial functions, with an associated diminished or altered state of consciousness.

Area of function affected:

- 1- Cognitive
- 2- Sensory/perceptual
- 3- Seizures
- 4- Other physical changes
- 5- Social-emotional.

Acute consequences:

- Impaired consciousness in varying duration (hours, days, weeks or months) long duration suggests poor prognosis.
- Delirium (after severe head trauma).
- Memory defects : on recovery of consciousness, defects of memory are usually present.

Anterograde (post-traumatic) amnesia:

-Amnesia for events in the time between the trauma and the resumption of normal continuous memory. It is a good prognostic factor: probably full recovery when anterograde amnesia was less than 12 hours.

Retrograde amnesia:

-Amnesia for events in the time between the trauma and the last clearly recalled memory before the injury. It is not a good predictor of outcome.

Chronic Consequences:

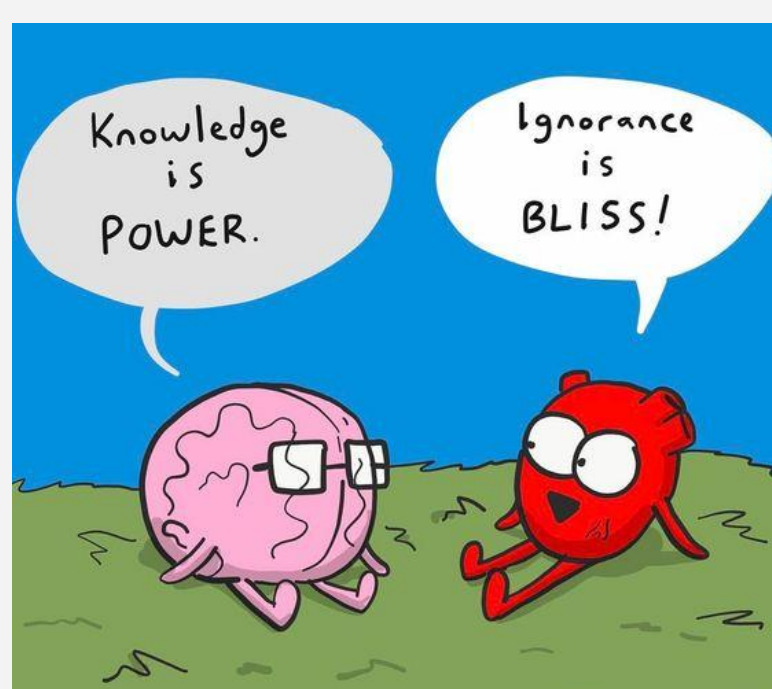
- **Lasting cognitive impairment:**
 - when the injury has caused a prolonged post traumatic amnesia (of more than 24 hours).Cognitive impairment was particularly associated with parietal and temporal damage, especially on the left side. Recovery of function may be very slow and may continue over the years.
- **Emotional disturbances:**
 - Depressive, anxiety and phobic features are common, and associated with somatic complaints such as headache, fatigue and, dizziness.
- **Personality changes:**
 - There may be irritability, reduced control of aggressive impulses, sexual disinhibition and some coarsening of behaviour, particularly after frontal lobe injury.
- **Psychotic features:**
 - Psychotic features related to depression (non-dominant frontal damage). Paranoid psychosis (temporal lobe damage).
- **Social consequences:**
 - Many patients and their relatives experience severe distress of head injury, and have to make substantial changes in their way of life.
- **Medico-legal aspects:**
 - Compensation issue is more likely to contribute to disability if patient feels someone else is at fault, financial compensation is possible, low social status and in industrial injury..

Factors affecting the outcome of head trauma:

- Duration of loss of consciousness.
- Duration of anterograde (Post-traumatic) amnesia.
- Amount and location of brain damage.
- Premorbid personality and past psychiatric history.
- Development of seizures.
- Medico-legal factors e.g. compensation.

Treatment

- A plan for long-term treatment should be made as early as possible after head trauma.
- Aggression and impulsivity can be treated with anticonvulsants or antipsychotics.
- Treatment should include physical and psychological rehabilitation to which the clinical psychologist can sometimes contribute behavioral and cognitive techniques.
- Problems of litigation and compensation should be settled as early as possible.
- Continuing psychosocial help should be provided to patient and carers, by a special team.



Quiz

Answers Key!

1.A 2.B 3.A 4.C 5.A 6.C 7.D

1) The most common cause of Dementia?

- A. Alzheimer's disease.
- B. Vascular dementia.
- C. Lewy body dementia.
- D. Frontotemporal dementia.

2) Which of the following is a feature of delirium that help to differentiate it from dementia?

- A. Memory loss.
- B. Fluctuating course.
- C. Disorientation.
- D. Emotional abnormalities.

3) Acute syndrome present with Ataxia, impaired consciousness and memory impairment?

- A. Wernicke's encephalopathy.
- B. Korsakoff's syndrome.

4) A 78 Years old male admitted to the hospital complaining of Respiratory tract infection, Confusion, Disorganized thinking, Disorganization and Behavioral abnormality. What is the diagnosis?

- A. Dementia.
- B. Amnestic syndrome.
- C. Delirium.
- D. Wernicke's encephalopathy.

5)A 81 years old female present with progressive decline in memory over the past 3 years. Misplacing items, Incontinent of urine and Visual hallucinations. What is the diagnosis?

- A. Dementia (AD).
- B. Delirium.
- C. Korsakoff's syndrome.
- D. Wernicke's encephalopathy.

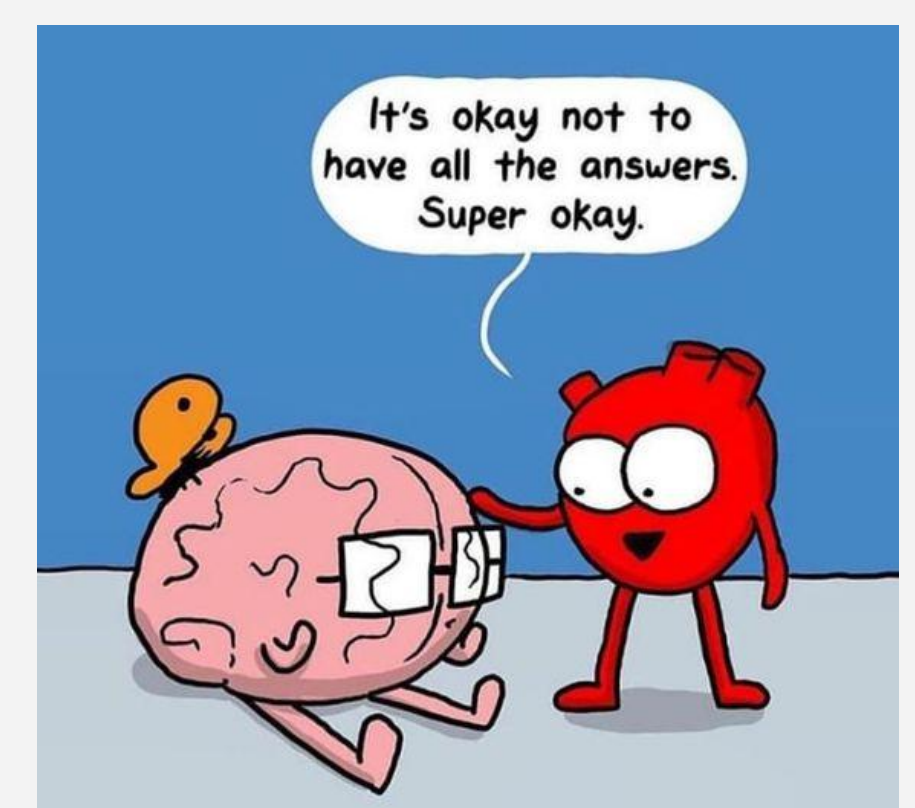
6) A 74 years old woman known case of HTN. DM. Developed dysarthria due to a transient ischemic attack. She has poor attention & memory impairment for several months. The most likely primary diagnosis?

- A. Alzheimer disease.
- B. Delirium.
- C. Vascular dementia.
- D. Amnestic syndrome.

7) A 75-year-old man admitted in the surgical ward because of prostate carcinoma, urinary retention and urinary tract infection. At night, he became hostile, irritable, drowsy and uncooperative. The most likely diagnosis:

- A. Adjustment disorder.
- B. Dementia.
- C. Acute stress disorder.
- D. Delirium.

Questions 5,6 and 7 are from prof. Mohammed Alsughayir



Good luck!

It always seems impossible until it's done.

Team leaders |

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