

- **Consciousness Disorders**
- Consciousness is a brain-generated psychological state expressed in two dimensions:
- wakefulness and the self-aware cognition

- **Staging:**
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- **1/somnolence /hypersomnia,pathologic drowsiness,obtundation/:** Terms applied to an increase above normal sleep/wake ratio, accompanied during wakefulness by reduced attention and interest in the environment
- **2/sopor** - spontaneous unarousability interruptable only by strong external stimulation
- **3/precoma**
- **4/coma** - unresponsiveness. Even strong stimuli fail to elicit recognizable psychological responses

- **Other similar states:**
- **Delirium:** An acute or subacute reduction in awareness, attention, orientation and perception /“clouding of consciousness“/, usually fluctuating and accompanied by abnormal sleep/wake patterns and often psychomotor disturbances.
- **Syncope:** A brief loss of consciousness due to global failure of cerebrovascular perfusion
- **Dementia:** is permanent decline in cognitive functions, usually without impaired arousal
- **Vegetative states:** complete loss of cognition. Wake/sleep cycles and other autonomic functions remain relatively intact. The condition can follow acute, severe bilateral cerebral damage or develop gradually as the end stage of progressive dementia.
- **Locked-in state:** A condition in which intellectual activity is preserved but cannot be expressed because of total incapacity to express voluntary responses due to impaired junction of descending motor pathways in the brain or peripheral motor nerves. Most such patients can use vertical eye movements to signal .

- **Division of consciousness disorders**
- **according to the length of duration**
- - brief loss of consciousness – syncope
- - sustained impairments of consciousness
- **Sustained impairments of consciousness**
due to:
- **A/ structural lesion** ...CT, MRI
- -stroke
- -inflammation ...lumbar
punction
- **B/ metabolic dysfunction** ...biochemistry
- -intoxication
- -metabolic coma

- **Physical signs of metabolic encephalopathy:**
- Confusion, lethargy, delirium .
- Motor signs are usually symmetric
- myoclonus
- Pupillary reactions - usually preserved
- Sensory abnormalities - usually absent
- Hypothermia is common

- **1/ STROKE**
- **a/ intracerebral bleeding**
- -hypertension, atherosclerosis
- -younger individuals
- -sudden onset
- **b/ ischemic disorder**
- -thrombosis
- -embolisation
- -older individuals
- -slow onset /during sleep not rarely/
- -normotension
- **c/ epidural hematoma**
- -posttraumatic bleeding of arterial origin into extradural space
- -short lucid interval /30min –several hours/
- -after onset of neurologic signs- very sudden progression
- **d/ subdural hematoma**
- -posttraumatic bleeding of venous origin into space between dura mater and arachnoidea
- - trauma in previous several weeks – HEADACHE
- -slow onset of neurologic symptoms
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- /headache- analgetics- increase of barbiturate serum levels/
- **e/ subarachnoideal bleeding**
- -aneurysmas
- -trigger – physical exercise, hard work in hot weather
- -younger individuals
- -sudden onset

- **POISONING**

- a/ **barbiturates**- pallor!
- b/ **CO** intoxication- red skin a mucousal
- c/**alcohol** intoxication – foetor ex ore
- d/poisoning by **organophosphates** – miosis, fasciculations, cramps, respiratory failure

- **Clinical status** of intoxicated patient

- grade 0- sleeping, awakable, giving answers to questions
- grade 1- unconscious, nociceptive reaction present, reflex responsiveness present
- grade 2- unconscious, nociceptive reaction absent, reflex responsiveness present
- grade 3- unconscious, no reflexes , no breathing and circulatory disorders
- grade 4- coma,breathlessness, shock

- **METABOLIC COMATOUS STATES**
- **Hypoglycemic coma**
- -usually overdosing of insulin or PAD
- -sweating, tremor, psychomotoric changes
- -convulsions, coma
- -pale and wet skin, well palpable puls, normal blood pressure
- **Diabetic coma /=hyperglycemic coma/**
- **a/ acidotic**
- diabetes mellitus
 - - not treated
 - - badly treated
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- -hyperglycemia
- -acidosis
- -mineral dysbalance
- **b/ hyperosmolar**
- hyperglycemia...dehydration...mineral dysbalance
- NO ACIDOSIS – remnant secretion of insulin, common in older diabetics
- **Liver coma**
- - insufficient metabolic function of liver
- a/ acute hepatopathy / hepatitis, intoxication by drugs, mushrooms/
- b/ chronic hepatopathy / cirrhosis, tumour /
- cause: influence of AMONIAK in CNS
- diagnosis: signs of liver illness – jaundice, ascites, foetor hepaticus
- **Uremic coma**
- terminal stage of an acute or chronic renal disease
- - inflammatory origin /glomerulonephritis, pyelonephritis,.../
- - intoxication
- cause: influence of uremic toxins in CNS, acidosis, hypertension...brain oedema

- **4/ COMATOUS STATES OF ENDOCRINE ORIGIN**

- **Myxedematous coma**

- -alveolar hypoventilation /weakness of breathing muscles...increase of pCO₂/
- -decrease of body temperature / hypotermia /
- -signs of myxedema

- **Basedow coma /thyreotoxic crisis/**

- -hypertermia 41-42 gr.C
- -tachycardia, atrial fibrillation
- -unrest
- -vomiting, diarrhoea

- **Acute hyperparathyreoideal intoxication /hypercalcemic coma/**

- -increase of calcium level
- -calcium influence in CNS, kidney, myocardium

- **Hypophyseal coma**

- Sheehan syndrome /atrophy of the front hypophyseal lobe due to necrosis/
- -myxedematous coma
- -hypoglycemia
- -Addison crisis with circulatory failure, shock

- **Suprarenal coma**

- -Addison disease and stress
- -sudden withdrawal of steroidal treatment and/or stress

- **5/EPILEPSY**
- -convulsions
- -signs of bites on tongue
- - stool and urine incontinency

- **SHORT TERM LOSS OF CONSCIOUSNESS**

- **A/ CARDIAC ORIGIN**

- -conduction disorders
- -excitation disorders

- **B/ CENTRAL NERVOUS ORIGIN**

- -narcolepsy
- -epilepsy

- **C/ HYSTERY**

- **signs of psychogenic pseudosyncope**

- -Lids close actively, may flutter, and often resist examiner's attempt to open them
- -Breathing: eupnoea or acute hyperventilation
- -Pupils responsive or dilated
- -Calorics produce quick nystagmus.
- -Motor responses are unpredictable and often bizarre and self-protecting
- -No pathologic reflexes.
- EEG normal in awake patient.