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Classification of Psychiatric Illness

A. Disorders During Infancy, Childhood or Adolescence

1. Mental Retardation, Learning disorders, Motor skill disorders. Communication disorders, Pervasive development disorders, ADHD, Tic disorders, Elimination disorder, Selective Mutism, Separation anxiety disorder.

B. Delirium, Dementia and Amnestic and other cognitive disorders.

C. Mental disorder due to General Medical Condition.

D. Substance related disorder.

E. Schizophrenia and Other Psychotic disorders:

F. Mood disorder: Depressive disorder and Bipolar disorder.

G.Anxiety Disorder: GAD, Phobia, OCD, PTSD.

H.Somatoform disorder: Somatization , Conversion, Hypochondriasis, Pain Disorder, Body Dysmorphic disorder.

- **I. Factitious disorder** (Munchausen Syndrome)
- **J. Dissociative disorder** - Dissociative amnesia/ Fugue/Identity disorder/Depersonalization disorder.
- **K. Sexual and Gender Identity Disorder**.
- **L. Eating disorder**: Anorexia Nervosa, Bulimia Nervosa.
- **M. Sleep Disorders**.
- **N. Impulse Control Disorders :** Kleptomania, Pyromania, Trichotillomania Etc.
- **O. Adjustment disorder:**
- **P. Personality disorders**

1. Paranoid, Schizoid, Schizotypal.
2. Histrionic, Borderline, ASPD, Narcisistic.
3. Dependant, Avoidant, OCPD.

DELIRIUM

- *Confusion*, a mental and behavioral state of reduced comprehension, coherence, and capacity to reason, is one of the most common problems encountered in medicine, accounting for a large number of emergency department visits, hospital admissions, and inpatient consultations.

- *Delirium*, a term used to describe an acute confusional state, remains a major cause of morbidity and mortality

- .

- **Clinical Features of Delirium**

- delirium, including encephalopathy,
- acute brain failure, acute confusional state, and postoperative or intensive care unit (ICU) psychosis.
- it is defined as a relatively acute decline in cognition that fluctuates over hours or days.
- The hallmark of delirium is a deficit of attention, although all cognitive domains—including memory, executive function, visuospatial tasks, and language—are variably involved.
- Associated symptoms
- altered sleep-wake cycles, hallucinations or delusions, affect changes, and autonomic findings including heart rate and blood pressure instability

- Two broad clinical categories of delirium - hyperactive and hypoactive subtypes, based on differential psychomotor features.
- hyperactive subtype, - severe alcohol withdrawal remains the classic example of the hyperactive subtype, featuring prominent hallucinations, agitation, and hyperarousal, often accompanied by life-threatening autonomic instability.
- hypoactive subtype of delirium, - by opiate intoxication, in which patients are withdrawn and quiet, with prominent apathy and psychomotor slowing.

- Risk Factors
- those preparing for elective surgery or being admitted to the hospital.
- risks are older age and baseline cognitive dysfunction.
- factors as preexisting hearing and visual impairment, as well as indices for poor overall health, including baseline immobility, malnutrition, and underlying medical or neurologic illness.
- In-hospital risks for delirium----- bladder catheterization, physical restraints, sleep and sensory deprivation. Surgical and anesthetic risk factors for the development of postoperative delirium include specific procedures such as those involving cardiopulmonary bypass and inadequate or excessive treatment of pain in the immediate postoperative period.

- **The relationship between delirium and dementia-----**
- Dementia and preexisting cognitive dysfunction serve as major risk factors for delirium, at least two-thirds of cases of delirium occur in patients with coexisting underlying dementia.
- A form of dementia with parkinsonism, termed *dementia with Lewy bodies*, is characterized by a fluctuating course, prominent visual hallucinations, parkinsonism, and an attentional deficit that clinically resembles hyperactive delirium

- The pathogenesis and anatomy of delirium are incompletely understood. The attentional deficit that serves as the neuropsychological hallmark of delirium appears to have a diffuse localization with the brainstem, thalamus, prefrontal cortex, thalamus, and parietal lobes.
- Deficiency of acetylcholine often plays a key role in delirium pathogenesis

- Confusion Assessment Method (CAM)
- Organic Brain Syndrome Scale;
- the Delirium Rating Scale; and, in the ICU,
- the Delirium Detection Score and the ICU version of the CAM.
- These scales are based on criteria from the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM) or
- the World Health Organization's International Classification of Diseases (ICD)

- **The Confusion Assessment Method (CAM) Diagnostic Algorithm**

- Feature 1: Acute onset and fluctuating course

- Feature 2: Inattention

distractible—or have difficulty keeping track of what was being said?

- Feature 3: Disorganized thinking

- Feature 4: Altered level of consciousness

: alert (normal), vigilant (hyperalert), lethargic (drowsy, easily aroused), stupor (difficult to arouse), or coma (unarousable)?

- Physical Examination
- The general physical examination in a delirious patient should include a careful screening for signs of infection such as fever, tachypnea, pulmonary consolidation, heart murmur, or stiff neck.
- The patient's fluid status should be assessed; both dehydration and fluid overload with resultant hypoxia have been associated with delirium, and each is usually easily rectified. i

- Table 26-2 Common Etiologies of Delirium
- Toxins
- Prescription medications: especially those with anticholinergic properties, narcotics and benzodiazepines
- Drugs of abuse: alcohol intoxication and alcohol withdrawal, opiates, ecstasy, LSD, GHB, PCP, ketamine, cocaine
- Poisons: inhalants, carbon monoxide, ethylene glycol, pesticides
- Metabolic conditions
- Electrolyte disturbances: hypoglycemia, hyperglycemia, hyponatremia, hypernatremia, hypercalcemia, hypocalcemia, hypomagnesemia
- Hypothermia and hyperthermia
- Pulmonary failure: hypoxemia and hypercarbia
- Liver failure/hepatic encephalopathy
- Renal failure/uremia
- Cardiac failure
- Vitamin deficiencies: B_{12}, thiamine, folate, niacin

- Dehydration and malnutrition
- Anemia Infections
- Systemic infections: urinary tract infections, pneumonia, skin and soft tissue infections, sepsis
- CNS infections: meningitis, encephalitis, brain abscess
- Endocrinologic conditions
- Hyperthyroidism, hypothyroidism Hyperparathyroidism
- Adrenal insufficiency Cerebrovascular disor
- Hypertensive encephalopathy
- Focal ischemic strokes and hemorrhages: especially nondominant parietal and thalamic lesions
- Autoimmune disorders-CNS vasculitis; Cerebral lupus
- Seizure-related disorders--Nonconvulsive status epilepticus
- Intermittent seizures with prolonged post-ictal states
- Neoplastic disorders--Diffuse metastases to the brain ,Gliomatosis cerebri
- Terminal end of life delirium
-
- ***Abbreviations:*** LSD, lysergic acid diethylamide; GHB, -hydroxybutyrate; PCP, phencyclidine; CNS, central nervous system.

- Table 26-3 Step-Wise Evaluation of a Patient with Delirium

- General physical examination and neurologic examination
- Complete blood count
- Electrolyte panel
- Liver function tests including albumin
- Renal function tests
- Urinalysis and culture
- Chest radiograph
- Blood cultures
- Electrocardiogram
- Arterial blood gas
- Brain imaging with MRI/CT
- electroencephalogram (EEG)
- Vitamin levels: B_{12}, folate, thiamine

- (TSH) and free T4; cortisol
- Serum ammonia
- Lumbar puncture (if not already performed)

- Delirium: Treatment
- Management of delirium begins with treatment of the underlying inciting factor
- Reorientation by the nursing staff and family combined with visible clocks, calendars, and outside-facing windows can reduce confusion. Sensory isolation should be prevented by providing glasses and hearing aids to those patients who need them. Sundowning can be addressed to a large extent through vigilance to appropriate sleep-wake cycles. During the day, a well-lit room should be accompanied by activities or exercises to prevent napping. At night, a quiet, dark environment with limited interruptions by staff can assure
- , very-low-dose typical or atypical antipsychotic medications administered on an as-needed basis are effective. The recent association

DEMENTIA

- It is defined as an acquired deterioration in cognitive abilities that impairs the successful performance of activities of daily living.
- Memory is the most common cognitive ability lost with dementia; 10% of persons >70 and 20–40% of individuals >85 have clinically identifiable memory loss.
- In addition to memory, other mental faculties ------language, visuospatial ability, calculation, judgment, and problem solving.

- Neuropsychiatric and social deficits also develop in many dementia syndromes, resulting in depression, withdrawal, hallucinations, delusions, agitation, insomnia, and disinhibition.

- The most common forms of dementia are progressive, but some dementing illnesses are static and unchanging or fluctuate dramatically from day to day.

- Dementia results from the disruption of cerebral neuronal circuits; the quantity of neuronal loss and the location of affected regions are factors that combine to cause the specific disorder . Behavior and mood are modulated by **noradrenergic, serotonergic, and dopaminergic pathways,** while **acetylcholine** seems to be particularly important for memory

- Therefore, the loss of cholinergic neurons in Alzheimer's disease (AD) may underlie the memory impairment, while in patients with non-AD dementias, the loss of serotonergic and glutaminergic neurons causes primarily behavioral symptoms, leaving memory relatively spared.

- Epidemiology
- The most important risk factors for AD are old age and a positive family history. The frequency of AD increases with each decade of adult life, reaching 20–40% of the population over the age of 85.
- A positive family history of dementia suggests a genetic
- Some AD patients have a past history of head trauma with

Most Common Causes of Dementia

- Alzheimer's disease Vascular dementia Multi-infarct
- Diffuse white matter disease (Binswanger's),Alcoholism[a]
- Parkinson's disease ,Drug/medication intoxication[a]
- **Less Common Causes of Dementia**
- Vitamin deficiencies
- Thiamine (B_1): Wernicke's encephalopathy[a]
- B_{12} (pernicious anemia)[a]
- Nicotinic acid (pellagra)[a]
- Endocrine and other organ failure
- Hypothyroidism[a]
- Adrenal insufficiency and Cushing's syndrome[a]
- Hypo- and hyperparathyroidism[a]
- Renal failure[a]
- Liver failure[a]
- Pulmonary failure[a]
- Chronic infections

- HIV
- Neurosyphilis[a]
- Papovavirus (progressive multifocal leukoencephalopathy)
- Prion (Creutzfeldt-Jakob and Gerstmann-Sträussler-Scheinker diseases)
- Tuberculosis, fungal, and protozoal[a]
- Whipple's disease[a]
- Head trauma and diffuse brain damage
- Dementia pugilistica
- Chronic subdural hematoma[a]
- Postanoxia
- Postencephalitis
- Normal-pressure hydrocephalus[a]
- Neoplastic

- Metastatic brain tumor[a]
- Paraneoplastic limbic encephalitis

- Toxic disorders
- Drug, medication, and narcotic poisoning[a]
- Heavy metal intoxication[a]
- Dialysis dementia (aluminum)
- Organic toxins
- Psychiatric -Depression (pseudodementia)[a] ,Schizophrenia[a] ,Conversion reaction[a]
- Degenerative disorders
- Huntington's disease
- Pick's disease
- Dementia with Lewy bodies
- Progressive supranuclear palsy (Steel-Richardson syndrome)
- Multisystem degeneration (Shy-Drager syndrome)
- Hereditary ataxias (some forms)

- Motor neuron disease [amyotrophic lateral sclerosis (ALS); some forms]
- Frontotemporal dementia
- Cortical basal degeneration
- Multiple sclerosis
- Adult Down's syndrome with Alzheimer's
- ALS–Parkinson's–Dementia complex of Guam
- Miscellaneous
- Sarcoidosis[a]
- Vasculitis[a]
- CADASIL etc
- Acute intermittent porphyria[a]
- Recurrent nonconvulsive seizures[a]
- Additional conditions in children or adolescents
- Hallervorden-Spatz disease
- Subacute sclerosing panencephalitis
- Metabolic disorders (e.g., Wilson's and Leigh's diseases, leukodystrophies, lipid storage diseases, mitochondrial mutations)

- Table 365-3 Evaluation of the Patient with Dementia
- Psychometric testing
- EEG
- Physical examination
- Chest x-ray
- Laboratory tests
- Lumbar puncture
- Thyroid function (TSH)
- Liver function
- Vitamin B_{12}

- Renal function

Complete blood count

- Urine toxin screen
- Angiogram
- Electrolytes
- HIV
- Brain biopsy
- CT/MRI
- Apolipoprotein E

- RPR or VDRL
- PET

- **Reversible Causes**
- Examples
- Hypothyroidism
- Thiamine deficiency
- Vitamin B_{12} deficiency

- Normal-pressure hydrocephalus
- Subdural hematoma
- Chronic infection
- Brain tumor
- Drug intoxication

- **Irreversible/Degenerative Dementias**
- Examples
- Alzheimer's
- Frontotemporal dementia
- Huntington's
- Dementia with Lewy bodies
- Vascular
- Leukoencephalopathies
- Parkinson's

- Brief screening tools such as the mini-mental state examination (MMSE) help to confirm the presence of cognitive impairment and to follow the progression of.

- Table 365-5 The Mini-Mental Status Examination

- Orientation

- Name: season/date/day/month/year
- 5 (1 for each name)
- Name: hospital/floor/town/state/country
- 5 (1 for each name)

- Registration
- Identify three objects by name and ask patient to repeat
- 3 (1 for each object)
- Attention and calculation

  Serial 7s; subtract from 100 (e.g., 93–86–79–72–65)
- 5 (1 for each subtraction)
- Recall
- Recall the three objects presented earlier
- 3 (1 for each object)

- Language

  Name pencil and watch
- 2 (1 for each object)
- Repeat "No ifs, ands, or buts"---1
- Follow a 3-step command (e.g., "Take this paper, fold it in half, and place it on the table")
- 3 (1 for each command)
- Write "close your eyes" and ask patient to obey written command-----1
- Ask patient to write a sentence----------1
- Ask patient to copy a design (e.g., intersecting pentagons)---1

- **Total** ----------30

- Clinical Manifestations
- The cognitive changes with AD tend to follow a characteristic pattern, beginning with memory impairment and spreading to language and visuospatial deficits. However, ~20% of AD patients present with nonmemory complaints such as word-finding, organizational, or navigational difficulty. In the early stages of the disease, the memory loss may go unrecognized or be ascribed to benign forgetfulness. Once the memory loss begins to affect day-to-day activities or falls below 1.5 standard deviations from normal on standardized memory tasks, the disease is defined as MCI. Approximately 50% of MCI individuals will progress to AD within 5 years. Slowly the cognitive problems begin to interfere with daily activities, such as keeping track of finances, following instructions on the job, driving, shopping, and housekeeping. Some patients are unaware of these difficulties (*anosognosia*), while others have considerable insight. Change of environment may be bewildering, and the patient may become lost on walks or while driving an automobile. In the middle stages of AD, the patient is unable to work, is easily lost and confused, and requires daily supervision. Social graces, routine behavior, and superficial conversation may be surprisingly intact. Language becomes impaired—first naming, then comprehension, and finally fluency. In some patients, *aphasia* is an early and prominent feature. Word finding difficulties and circumlocution may be a problem even when formal testing demonstrates intact naming and fluency. *Apraxia* emerges, and patients have trouble performing sequential motor tasks. Visuospatial deficits begin to interfere with dressing, eating, solving simple puzzles, and copying geometric figures. Patients may be unable to do simple calculations or tell time.

- In the late stages of the disease, some persons remain ambulatory but wander aimlessly. Loss of judgment, reason, and cognitive abilities is inevitable. Delusions are common and usually simple in quality, such as delusions of theft, infidelity, or misidentification. Approximately 10% of AD patients develop *Capgras' syndrome*, believing that a caregiver has been replaced by an impostor. In contrast to DLB, where Capgras' syndrome is an early feature, in AD this syndrome emerges later in the course of the illness. Loss of inhibitions and aggression may occur and alternate with passivity and withdrawal. Sleep-wake patterns are prone to disruption, and nighttime wandering becomes disturbing to the household. Some patients develop a shuffling gait with generalized muscle rigidity associated with slowness and awkwardness of movement. Patients often look parkinsonian (Chap. 366) but rarely have a rapid, rhythmic, resting tremor. In end-stage AD, patients become rigid, mute, incontinent, and bedridden. Help may be needed with the simplest tasks, such as eating, dressing, and toilet function. They may show hyperactive tendon reflexes. Myoclonic jerks (sudden brief contractions of various muscles or the whole body) may occur spontaneously or in response to physical or auditory stimulation. Myoclonus raises the possibility of CJD (Chap. 378), but the course of AD is much more prolonged. Generalized seizures may also occur. Often death results from malnutrition, secondary infections, pulmonary emboli, or heart disease. The typical duration of AD is 8–10 years, but the course can range from 1 to 25 years. For unknown reasons, some AD patients show a steady downhill decline in function, while others have prolonged plateaus without major deterioration.

- , the most severe pathology is usually found in the hippocampus, temporal cortex, and nucleus basalis of Meynert (lateral septum). The most important microscopic findings are neuritic "senile" plaques and NFTs.
- These lesions accumulate in small numbers during normal aging of the brain but occur in excess in AD.
- There is increasing evidence to suggest that soluble amyloid fibrils called *oligomers* lead to the dysfunction of the cell and may be the first biochemical injury in AD

- Alzheimer's Disease: Treatment
- The primary focus is on long-term amelioration of associated behavioral and neurologic problems.
- Building rapport with the patient, family members, and other caregivers is essential to successful management.
- In the early stages of AD, memory aids such as notebooks and posted daily reminders can be helpful.
- Common sense and clinical studies show that family members should emphasize activities that are pleasant and deemphasize those that are unpleasant.

- Kitchens, bathrooms, and bedrooms need to be made safe, and eventually patients must stop driving.
- Loss of independence and change of environment may worsen confusion, agitation, and anger.
- Communication and repeated calm reassurance are necessary.
- Caregiver "burnout" is common, often resulting in nursing home placement of the patient, and respite breaks for the caregiver help to maintain successful long-term management of the patient. Use of adult day-care centers can be most helpful. Local and national support groups, such as the Alzheimer's Association, are valuable resources.

- Donepezil, rivastigmine, galantamine, memantine, and tacrine (FDA) selegiline (Chap. 366), -tocopherol ,*Ginkgo biloba* ,or both, for treatment of AD

CEREBRAL TUMOURS

- The brain is a highly specialized organ. It serves as the control center for functions of the body and allows us to cope with our environment.
- Words, actions, thoughts, and feelings are centered in the

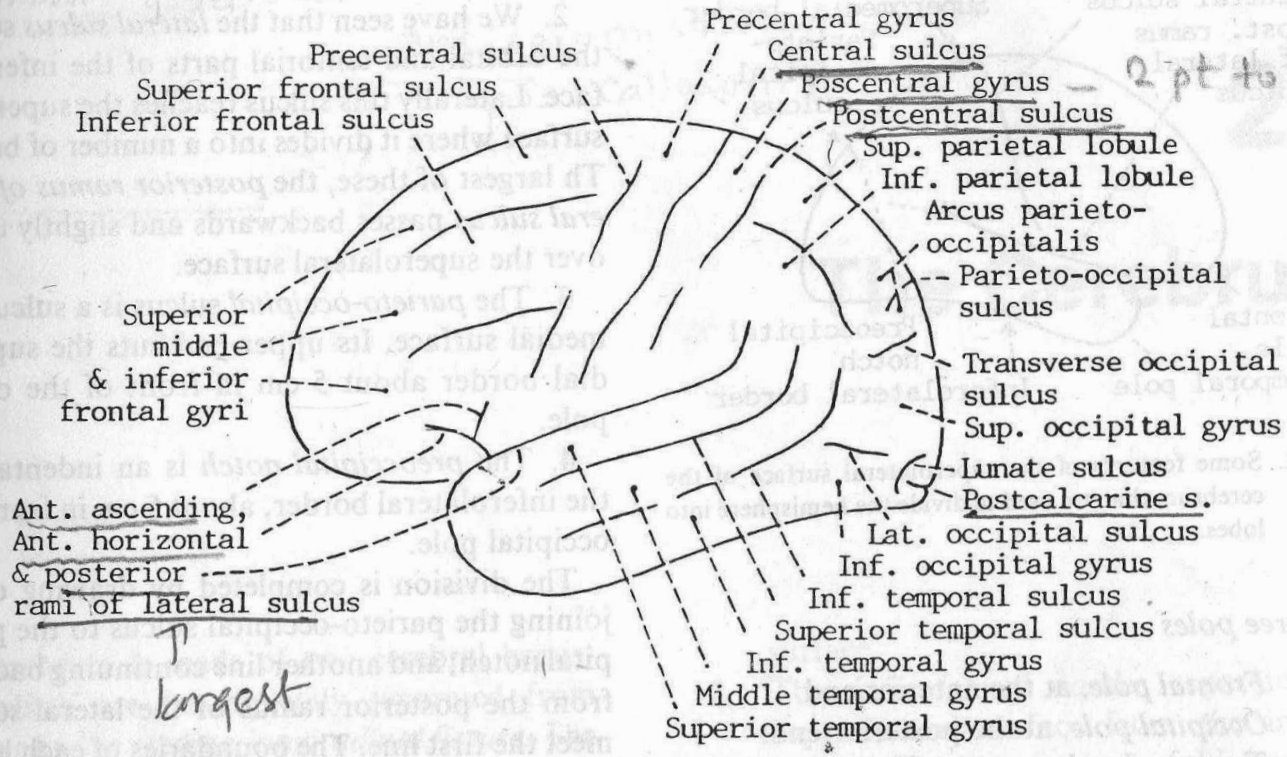
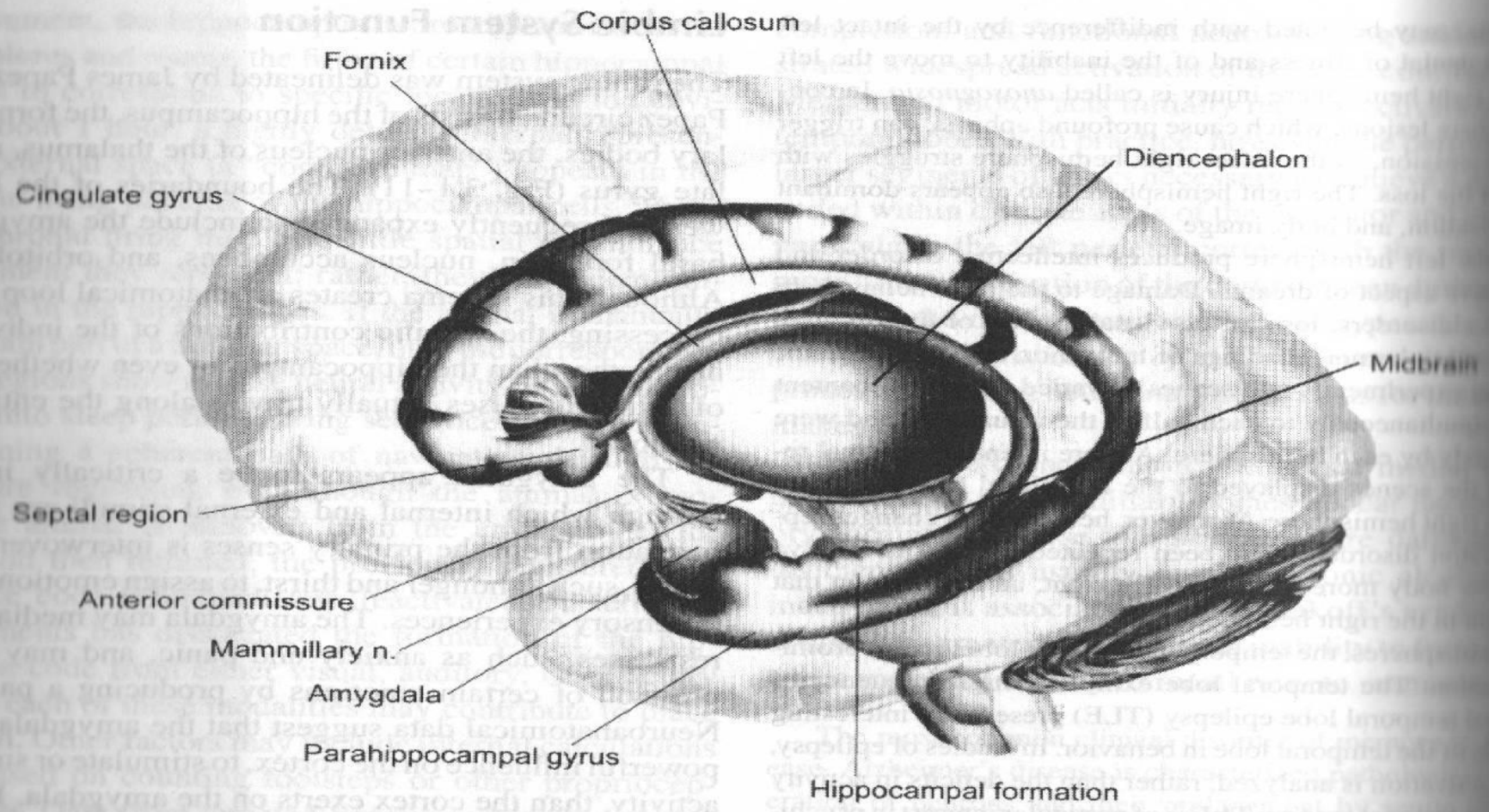
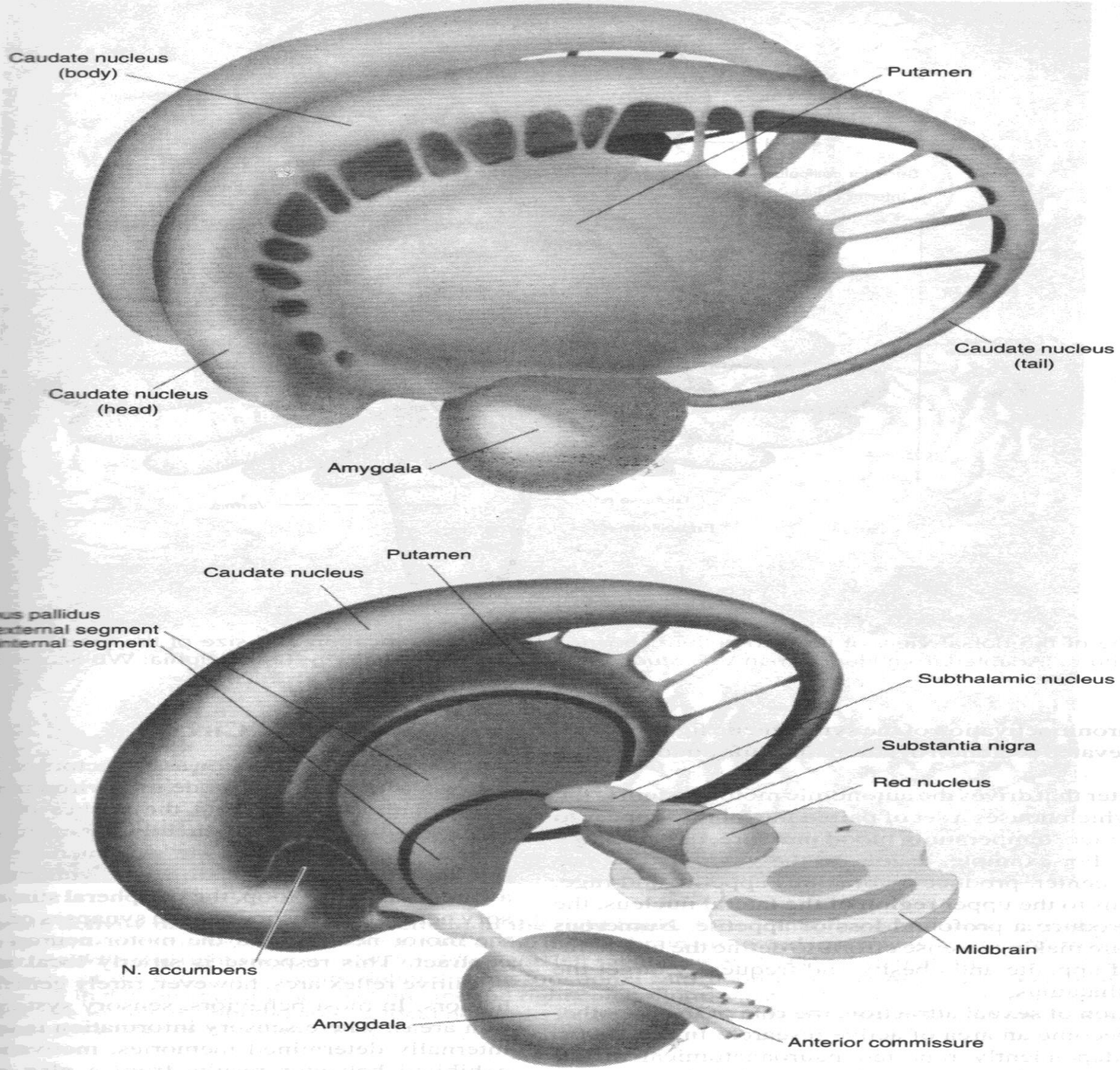


Fig. 28.4. Sulci and gyri on the superolateral surface of the cerebrum.



ving of the major anatomical structures of the limbic system. Note: The cingulated and parahippocampal
im of tissue located along the junction of the diencephalons and the cerebral hemispheres. n. nucleus


Caudate nucleus
(body)
Putamen
Caudate nucleus
(tail)
Caudate nucleus
(head)
Amygdala
Putamen
Caudate nucleus
Globus pallidus
external segment
internal segment
Subthalamic nucleus
Substantia nigra
Red nucleus
Midbrain
N. accumbens
Amygdala
Anterior commissure

- Cerebrum-is the largest part of the brain and is associated with conscious thought, movement and sensation.
- **Frontal Lobe -**is one of the four lobes of the cerebral hemisphere. It controls attention, behavior, abstract thinking, problem solving, creative thought, emotion, intellect, initiative, judgment, coordinated movements, muscle movements, smell, physical reactions, and personality.

- **Parietal Lobe** is one of the four lobes of the cerebral hemisphere. It controls tactile sensation, response to internal stimuli, sensory comprehension, some language, reading, and some visual functions.
- **Sensory cortex** is located in the front part of the **parietal lobe**, or in other words, the middle area of the brain. The sensory cortex receives information from the spinal cord about the sense of touch, pressure, pain, and the perception of the position of body parts and their movements.
- **Motor cortex** is an area located in the middle, top part of the brain that helps control movement in various parts of the body.
- **Temporal lobe** is one of the four lobes of the cerebral hemisphere of the cerebral hemisphere. It controls auditory and visual memories, language, some hearing and speech, language, plus some behavior.

- **Wernicke's Area** is part of the temporal lobe that surrounds the auditory cortex and is thought to be essential for understanding and formulating speech. Damage in Wernicke's area causes deficits in understanding spoken language.
- **Occipital Lobe** is one of the four lobes of the cerebral hemisphere. It is located in the back of the head and controls vision.
- **Broca's Area** is located in the opercular and triangular sections of the inferior frontal gyrus. The function of this area is the understanding of language, speech, and the control of facial neurons.
- **Brain Stem** is located at the bottom of the brain and connects the cerebrum to the spinal cord. The brain stem controls many vitally important functions including motor and sensory pathways, cardiac and respiratory functions, and reflexes.
- **Cerebellum** is located at the lower back of the head and is connected to the brain stem. It is the second largest structure of the brain and is made up of two hemispheres. The cerebellum controls complex motor functions such as walking, balance, posture, and general motor coordination.

- Possible symptoms of a brain tumor include:
  - A new seizure in an adult
  - Gradual loss of movement or sensation in an arm or leg
  - Unsteadiness or imbalance, especially if it is associated with headache
  - Loss of vision in one or both eyes, especially if the vision loss is more peripheral
  - Double vision, especially if it is associated with headache
  - Hearing loss with or without dizziness
  - Speech difficulty of gradual onset
- Other symptoms may also include nausea or vomiting that is most severe in the morning, confusion and disorientation, and memory loss.

- How is a brain tumor diagnosed?

- Acoustic Neuroma
- Astrocytoma:
  - Grade I - Pilocytic Astrocytoma
  - Grade II - Low-grade Astrocytoma
  - Grade III - Anaplastic Astrocytoma
  - Grade IV - Glioblastoma (GBM)
- Chordoma
- CNS Lymphoma
- Craniopharyngioma
- Other Gliomas:
  - Brain Stem Glioma
  - Ependymoma
  - Mixed Glioma
  - Optic Nerve Glioma
  - Subependymoma
- Medulloblastoma
- Meningioma

- Metastatic Brain Tumors
- Oligodendroglioma
- Pituitary Tumors
- Primitive Neuroectodermal (PNET)
- Other Brain-Related Conditions
- Schwannoma
- The following tumor types are more common in children than in adults:
- Brain Stem Glioma
- Craniopharyngioma
- Ependymoma

- Management of tumours-

THANK YOU