MENTAL DISORDERS DUE TO INFECTION

PSYCHIATRY DEPARTMENT

- DSM-IV – TR, with the introduction of concept of *due to,* abandoned the term organic to avoid the misconception that nonorganic

- At present functional disorders are described as primary mental disorders and organic disorders have been divided into those induced by identifiable medical condition and those induced by identifiable substances, prescribed or abused

- DSM-IV-TR’S diagnostic category, mental disorders due to general medical condition, includes a broad array of psychiatric states attributable to the physiological manifestations of specific medical condition

GENERAL MEDICAL CONDITIONS AND SUBSTANCE-INDUCED CAUSES OF MENTAL DISORDERS

- Neurological :Head trauma; Degenerative disease; Cerebrovascular disease; Demyelinating disease; Normal pressure hydrocephalus
- Brain Mass: tumor &SOL

Infectious and inflammatory:

- Brain involvement alone: Encephalitis and slow virus
- Systemic Infection : HIV/AIDS; Malaria;
- Sepsis; localized infection; pneumonia; urinary tract infection

- Metabolic: Anemia; hypoxia; hypercarbia, hyper/hyopocalcemia; Renal dysfunction; hepatic dysfunction
- Endocrine: thyroid; parathyroid; Adrenal; pheochromocytoma
- Vitamin deficiency: vitamin B12, thiamine, niacin ; folate
- Substance induce :Opioid; Anticholinergic; Anxiolytic; corticosteroid; Antiaarhythmic; immunosuppressant; anticonvulsant; antihypertensive; sympathomimetic, Antidepressant; alcohol; cocaine; phencyclidine; cannabis; inhalants; hallucinogens

- In contrast to psychiatric states resulting from the emotional distress or psychological reaction to a general medical condition,
- this category of illness includes only those disorders in which medical condition, through physiological means , ➔ has directly impacted on the functioning of the brain as manifested by the appearance of psychiatric symptoms

DSM-IV-TR CLASSIFICATION OF MENTAL DISORDERS DUE TO GENERAL MEDICAL CONDITION

- Delirium
- Dementia
- Amnestic disorder
- Psychotic disorder
- Mood disorder
- Anxiety disorder
- Sleep disorder

- Sexual dysfunction
- Catatonic disorder
- Personality change
- Mental disorder not otherwise specified

EVIDENCE OF PHYSIOLOGICAL CAUSE

A. Presence of the general medical condition based on history, laboratory findings, imaging studies, or physical examination
B. Temporal association between onset, exacerbation,or remission of the general condition and the mental disorder
C. Presence of atypical features, unusual presenting features may suggest a nonprimary mental disorder as examples of such features, DSM-IV-TR cites atypical age of onset (e.g., first appearance of schizophrenia –like symptoms in 75-year-old)

Cognitive disorders due to Infection

- Includes: delirium, dementia, and amnestic syndromes
- Delirium

  ➔ is characterized by disturbance of alertness and attentiveness, cognitive or perceptual changes; and symptoms that evolve over hours, or days typically in fluctuating manner

Epidemiology

- Prevalence +/- 1 % in those older than 55 years of age
- affects approximately 20 to 30 % of individuals hospitalized for medical and surgical reason
- 30-40% of hospitalized AIDS pts develop delirium
- as much as 80% of patients with terminal illness near death

etiology

- Delirium due to HIV /AIDS disease
- Delirium due to Malaria
- Delirium due to Sepsis

Pathophysiology

- The pathophysiology of delirium is poorly understood.
- Hypofunction of cholinergic systems is postulated to underlie the cognitive defects seen in delirium
- Dysfunction of the reticular activating system
- Hyperfunction in mesocorticolimbic dopaminergic pathways -→ excess dopamin release

Diagnosis and Clinical features

- Disturbance of consciouness
- Psychomotor disturbances : agitation, hypoactive
- A change in cognition: memory deficit, disorientation, languange disturbances
- Confusion and reactivity to hallucinations and disorientation
- Pts may attempt to remove IV lines, catheters, ECG leads, and other tubes or may attempt to ambulate under safe condition

- The disturbance develops over a short period of time (usually hours to days)
- There is evidence from the history, physical examination or laboratory findings that the disturbance is caused by direct physiological consequences of general medical condition

Laboratory Findings

- Elevated white blood count
- HIV profiling In case HIV infection
- In most deliria, Electroencephalogram (EEG) demonstrates non focal background slowing

Course and prognosis

- Most individuals w/ delirium recover fully, despite the often dramatic fluctuations in cognition, alertness and mood encountered in this syndromes
- Course usually is dictated by the rapidity with which the offending cause is removed

- delirium in AIDS patients ➔only 27% had complete recovery of cognitive function, possibly because of underlying AIDS dementia

Treatment

- Three major goals of delirium treatment

1. To Find and to reverse the contributors to delirium
2. To Ensure the patient's safety while educating patients, family and staff
3. Symptomatic treatment of behavioral disturbances associated w/ delirium

- Pharmacologic
- High potency antipsychotic agent: Low dosages Haloperidol 0,5-1 mg orally or parentally
- Low potency antipsychotic agent, benzodiazepine should avoided → worsen deliria state

Dementia due to HIV/AIDS

- Dementia

  is characterized by widespread cognitive deficit, which includes, but are not limited to, memory impairment. The afflicted individual experiences significant impairment in social or occupational functioning

- One-third of asymptomatic individuals with HIV and one-half of individuals w/ AIDS show cognitive impairment

- Encephalopathy in HIV infection is associated with dementia and is termed acquired immune deficiency syndrome (AIDS) dementia complex, or HIV dementia

Epidemiology

- AIDS dementia complex → pts w/ advanced immunodeficiency
- ↑ viral load → dementia
- Introduction highly active antiretroviral therapies (HAART) → ↓ incidence dementia → < 10% pts w/ AIDS
- Before effective antiretroviral treatments were developed → AIDS dementia complex → +/- 60%

- HIV also associated w/ many opportunistic infections → neurological complication
- The most common → cryptococcal meningitis; toxoplasmosis; cytomegalovirus (CMV) encephalitis; progressive multifocal leucoencephalopathy; neurosyphilis and CNS lymphoma

etiology

- Scientists postulate cholinergic deficit and inflammatory change as potential explanations for changes in neurotransmission ➔ dementia

  Infection of HIV capable of causing dementia presumably exert their effects through one or more of these mechanisms

- In some cases, dementia is not due to the effect of HIV on the CNS but rather to, the effects of accompanying opportunistic lesions of the brain (e.g., toxoplasmosis and lymphoma), in which case dementia should be attributed to those lessions

Clinical features and Diagnose

- Type of HIV- associated dementia is subcortical dementia
- Individual w/ HIV-associated dementia: apathetic and psychomotor slowing
- Gait ataxia, tremor. And decline handwriting skills

DSM-IV-TR Criteria for dementias due to other general medical conditions

- A. the development of multiple cognitive deficit manifest by
- 1). Memory impairment (impaired ability to learn new information or to recall previously learned information
- 2) one or more of the following cognitive disturbances
- (a).aphasia (languange disturbance)

- (b) Aphasia (impaired ability to carry out motor activity despite intact motor function)

  (c) Agnosia (failure to recognize or to identify object, despite intact sensory function

  (d) disturbance in executive functioning (i.e., planning, organizing, sequencing and abstracting)

B. The cognitive deficits in criteria A1 and A2 each cause significant impairment in social or occupational functioning and represant a significant decline from a previous level of funtioning

- C. there is evidence from the history, physical examination, or laboratory findings that the disturbance is the direct physiological consequences of general medical condition other than alzheimer's disease or cerebrovascular disease
- D. the deficit donot occur exsclusively during the course of delirium

Specify: without behavioral disturbance

, with

Laboratory findings

- Spinal fluid may show lymphocytosis or elevated protein or both; presence of white blood cells should prompt a search for opportunistic infection
- MRI➔ demyelination of subcortical white matter
- PET (positron Emission Tomography) ➔hyperactivity in the thalamus and basal ganglia in early stage HIV-associated dementia ➔ hypoactivity of temporal lobes in late stage
- Histopathologically ➔ white matter and subcortical destruction

Treatment

- The primary goal → control the viral load
- Psychotropic medication
- Atypical antipsychotic → aggression or psychosis
- Antidepressant and mood stabilizer (divalproex) → labile affect, disinhibition and tearfullness
- Cholinesterase inhibitors → donepezil, galantamine and N-methyl –D-Aspartate (NMDA) receptor antagonist → controversial
- Avoiding polypharmacy

AMNESTIC DISORDER DUE TO GENERAL MEDICATION

- Individual w/ amnestic disorders demonstrate impairment only their ability to learn new information or to recall old information
- Transient : if memory impairment last for 1 month or less
- chronic (> 1 month)

etiology

- Injuries to brain regions involved w/ memory (e.g middle temporal lobe structures, including hippocampus and mammilary bodies), regardless of etiology =➔ amnestic disorder

- Such injuries may be due to ➔ infection such as herpes simplex encephalitis, head trauma, cerebrovascular event, hypoxia.

Diagnosis and clinical features

- Impairment in the ability to learn new information or to recall previously learned information
- The afflicted individual → confabulate, that is, create imagined experiences to fill in gaps in memory, confabulated stories tend to be variable
- Apathy, altered personality, lack of initiative and impairment in functioning (+)

- Laboratory evaluation: sructural brain imaging → atrophy or enlagement of third ventricle or lateral horns related to damage to mediotemporal lobe structures

- Treatment
  - Similar to that for dementia
  - Pharmacotherapy may be indicated for psychosis or mood disturbances

MOOD DISORDER DUE TO GENERAL MEDICAL CONDITION

- Mood disorders, particularly depression, accompany a range of medical problem
- To meet criteria for mood disorder due to general medical condition, the diagnostician must identify mood symptoms
- Mood syndrome: depressive, manic or mixed presentations

- The mood disturbance need not meet precise criteria for major depressive, manic, mixed, hypomanic episode
- Mental symptoms must not better accounted for by a primary mental disorder example adjustment disorder w/ depressed mood, occurring as psychological response to the medical condition

etiology

- Infection of HIV
- Prescribed substance for HIV patients: interferon

Diagnosis and clinical features

- Pts w/ depression has psychological symptoms: sad mood ; lack of pleasure or interest in usual activities; tearfulness concentration disturbance and suicidal ideation
- Or somatic symptoms: fatigue, sleep disturbance and appetite disturbance
- Or both of them

- Mania: irritable or euphoric mood, heightened energy, reduced need for sleep and accelerated thoughts.
- Manic patients→ engage in reckless activities w/ little consideration of the consequences of such behavior

- The likelihood that mood disorder is due to general medical conditions increased if a temporal relationship exist between the onset, exacerbation or remission of the medical condition and the mood disorder

- Course and prognosis
- Depends on the course of underlying medical state, as well as the extent of concurrent psychiatric intervention
- Prognosis is best → etiological medical illness or medications are most susceptible to correction
- When such intervention is not possible or fails to lead to prompt remission of mood symptoms → formal psychiatric treatment is indicated

- Treatment
- Antidepressant and mood-stabilizer drugs
- Minimize adverse interaction
- ECT
- Psychotherapy

Psychotic disorder due to a general medical condition

- Psychosis implies a departure from reality testing.
- Pts w/ psychosis experiences with one or both of the following: delusion and hallucinations
- Hallucinations : visual; olfactory; gustatory; tactile or auditory or combination of these
- Delusion: somatic ; paranoid;religious or grandious

- Etiology: HIV infection
- Diagnosis and clinical features:

Two DSM-IV-TR subtypes exist for psychotic disorder due to general medical conditions:

with delusions: if the predominant psychotic symptoms are delusional

with hallucination:

- Treatment:
- Atypical agent w/ low Extrapyramidal symptoms such as: quetiapine; olanzapine; ziprasidone
- Psychotherapy
- Psychoeducational

Catatonic disorder due to a general medical condition

- Definition:

  catatonia is a clinical syndrome characterized by striking behavioral abnormalities, often including motoric immobility or excitement, profound negativism; or echolalia or echopraxia

- to meet criteria: evidence must exist in the history, physical examination or laboratory studies that condition is due to the physiological effects of general medical condition

- Etiology : infection
- Laboratory examination: no specific imaging or laboratory assessment is pathognomonic for catatonia
- Course & treatment
- Catatonic has lethal potential → as afflicted individuals cannot care for themselves and require intensive supervision in an inpatient setting

- Fluid and nutrient intake must be maintained, often w/ iv line or feeding tube
- Catatonic individual must be assisted w/ hygiene
- Central is outcome is identification and correction of underlying medical or pharmacological cause
- =➔ not adequate benefit =➔benzodiazepine or ECT

Personality change due to a general medical condition

- Definition:
- In personality change due to a general medical condition, the individual's pattern of behavior represents a marked alteration from previous personality

etiology

- Neurological condition ➔ frontal or temporal lobes or subcortical structure
- Frontal lobe ➔ planning and modulation behavior when injury occurs, lapses in social judgment and initiative
- Orbitofrontal lesions ➔ disinhibited behaviors and volatility of affect
- Frontopolar lesions➔ apathy and disengagement

- Lesions in temporal lobes → memory, emotional response
- Lesions of the frontal and temporal can induce personality change → trauma, neoplasma, encephalitis and cerebrovascular injury
- Subcortical degenerative

Diagnosis and clinical features

- Persistent personality disturbance that represents a change from the individual’s previous characteristic personality pattern
- Disturbances cause clinically significant distress or impairment in social, occupational or other important areas of functioning.

- In DSM-IV TR has eight subtypes personality change
- Labile type
- Disinhibited type
- Aggressive type
- Apathetic type
- Paranoid type
- Other type→ if the presentation is not sharacterized by any of the previously mentioned subtype
- Combined type
- Unspecified tytpe

Treatment

- Psychophamacology

  labile affect, anger, impatience→ anticonvulsan "valproic acid, lamotrigine, topiramate or carbamazepine

  antidepresant,

  antipsychotic

Psychotherapy

Terima kasih