

Organic Mental Disorders

Organic mental syndrome (organic brain syndrome) is a psychological or behavioral abnormality associated with transient or permanent dysfunction of the brain. Of the specific etiology is known or presumed, the syndrome is called an organic mental disorder.

Organic brain syndromes (now called neurocognitive disorders) may be classified into acute (e.g. delirium) and chronic (e.g. dementia) (**Table 4.1**).

Table 4.1: Differences between delirium and dementia

	<i>Delirium</i>	<i>Dementia</i>
• Causative mechanism • Onset • Duration • Course • Clinical features – Consciousness – Orientation – Attention and concentration – Comprehension – Memory disturbed – Perception (visual, frightening) – Thinking changing – frightening delusions – Sleep–wake cycle – Others • Neurophysiology – EEG – Autonomic dysfunctions – Characteristics	May be diffuse or symptomatic psychosis Rapid Transient (days to weeks) Reversible Clouded Disturbed Impaired Poor Immediate retention, recall, recent disturbed Illusions, hallucinations Common unsystematized, rapidly Grossly impaired Asterixis, tremors, multifocal Diffuse, bilateral slowing Common (e.g. postural hypotension, flushing, increased BP, respiratory dysfunction, nausea) Usually no aphasias, apraxias, agnosias	A diffuse damage Slow, insidious Chronic (months to years) Irreversible (can be halted in some cases) Usually normal Usually normal (disturbed in delirium on dementia) Normal (except in late stages) Good (except in late stages) Immediate retention and recall Hallucinations may occur Delusions rare Usually normal (except in rare and late cases) Catastrophic reaction, perseveration myoclonus Normal, diffuse or focal slowing Not characteristic, increased sensitivity to CO₂; post-hyperventilatory apnea to brief overbreathing Abnormal movements if lesions in basal ganglia or subcortical

Contd...

Table 4.1: Differences between delirium and dementia (Contd...)

	Delirium	Dementia
– Others		Dysmnesias, apraxias, aphasias, agnosias frontal release signs
• Known aetiology	Unstable vital signs, coma Physical illness, e.g. infection, CVS, trauma, endocrinal, metabolic, renal	Oral-mouthing behaviors Flexion posture, paratonic rigidity in limbs Degenerative, arteriosclerosis
• Treatment	Of primary cause	Supportive

Epidemiology

The exact incidence and prevalence of organic mental disorders are not known. They are quite frequent among hospitalized medical patients, physical ill patients, psychiatric inpatients and outpatients. Organic mental syndrome is believed to affect at least 10 to 30% of all medical and surgical inpatients.

Etiology

The important causes of organic mental syndromes are listed in **Table 4.2**. (using Mnemonic “Vindictive Mad”).

Classification

- Cognitive impairment is global, e.g. delirium, dementia.
- Selected areas of cognition impaired, e.g. amnesic syndrome.
- Resembling schizophrenic or affective disorders, e.g. organic (delusional or mood) syndrome.

Table 4.2: Causes of organic mental syndromes (Mnemonic: “Vindictive Mad”)

	General etiology	Specific examples
V	Vascular	Hypertensive encephalopathy, cerebral arteriosclerosis, intracranial hemorrhage or thromboses, circulatory collapse (shock).
I	Infectious*	Encephalitis, meningitis, general paresis
N	Neoplastic	Space occupying lesions such as gliomas, meningiomas, abscesses
D	Degenerative	Senile and presenile dementias such as Alzheimer’s, Pick’s, Huntington’s chorea
I	Intoxication*	Chronic intoxication or withdrawal effect of sedative-hypnotic drugs: Bromides, opiates, tranquilizers, anticholinergics, dissociative anesthetics, anticonvulsant drugs.
C	Congenital	Epilepsy and postictal states, aneurysm
T	Traumatic	Subdural and epidural hematoma, contusion, laceration, postoperative, heat stroke.
I	Intraventricular	Normal pressure hydrocephalus
V	Vitamin*	Deficiencies of thiamine (Wernicke-Korsakoff), niacin (pellagra), B ₁₂ (pernicious anemia)
E	Endocrine: Metabolic*	Diabetic coma and shock, uremia, myxedema, hyperthyroidism, parathyroid dysfunction, hypoglycemia, hepatic failure, porphyria, severe electrolyte or acid-base disturbances, Cushing’s syndrome, autoimmune disorders.
M	Metals	Heavy metals (lead, manganese, mercury), carbon monoxide, toxins (insecticides)
A	Anoxia	Hypoxia and anoxia secondary to pulmonary or cardiac failure, anesthesia, anemia, etc.
D	Depression: Other*	Depressive pseudodementia, hysteria, catatonia

* Reversible causes

- Resembling anxiety disorder, e.g. organic anxiety disorder.
- Personality is affected, e.g. organic personality syndrome.
- Substance ingestion or withdrawal.
- Residual category (unclassified), e.g. atypical disorder.

When etiological agent is known, substitute it with that, e.g. organic hallucinosis due to alcohol is called alcoholic hallucinosis.

Differential Diagnosis

The differences between organic and functional psychoses are given in **Table 4.3**.

Table 4.3: Comparison between organic and functional psychoses		
	Organic psychoses	Functional psychoses
Definition		
	Caused by or associated with known disease or cause	No structural brain change or well-defined systemic cause
Main disturbances		
	Consciousness, orientation, memory, intelligence	Thinking, mood and behavior
Complaints/History		
	Impairment of cognitive function History of physical factors (medication, accident, operation) or disease	Disturbance in behavior, thinking, mood History of physical factors usually negative.
Mental status examination		
Appearance	Uncharacteristic anomalies suggesting cognitive impairment Restricted scope of activity, perseveration and associated neurological signs	No clue of cognitive impairment Mannerisms, posturization but neurological signs rare.
Speech	Slurring, preservation	Pressure or decreased tone/pitch or normal
Affect	Lability/emotional incontinence Sad/elated in mood disorders	Inappropriate/incongruous in schizophrenic
Perception	Illusions common Hallucinations are vivid, formed, frightening coloured, moving or slow size distortion (visual more common)	Rare Hallucinations, auditory type more common
Thinking	Impoverishment of thought content Delusions are poorly elaborated, not well sustained and lack emotional intensity	Impoverishment rare (in depression) Delusions well elaborated, sustained and have emotional intensity
Other higher cognitive functions		
	Disturbed orientation, recent/remote memory concentration, learning and general intelligence Confabulation common	Orientation/memory/general intelligence intact
Physical examination, special tests		
	Other systemic/neurological signs I.Q. testing and tests for memory/concentration Others (Bender-Gestalt test, etc.) disturbed.	Normal These are usually normal
Management		
	Treatment of underlying cause Low dose of benzodiazepines/neuroleptics/others ECT (electroconvulsive therapy) rarely used	Treatment of primary complaint Antipsychotics/antidepressants ECT effective

CLINICAL DESCRIPTION OF VARIOUS ORGANIC MENTAL SYNDROMES

DELIRIUM

Among the organic mental syndromes, delirium is the *most common*. The essential characteristic of delirium is a clouded state of consciousness, i.e. a reduction in state of consciousness, i.e. a reduction in the clarity of awareness of the environment. This is manifested by difficulty in sustaining attention to the external stimuli, sensory misperception, disturbances in level of arousal and psychomotor activity and a disordered stream of thought.

Epidemiology

Delirium is the mental disorder with the highest incidence. About 10–25% of medical-surgical inpatients and about 20–40% of geriatric patients meet criteria for delirium during hospitalization. The prevalence in the community is low. It can occur at any age.

Etiology

The common causes of delirium are same as given in **Table 4.2** (Mnemonic “*Vindictive Mad*”).

Clinical Features (Table 4.4)

- Disturbed psychomotor activity presenting as restlessness, hyperactivity, aimless groping or picking at the bed clothes (*floccillation*), a coarse tremor and unsteadiness of the hands *asterixis* (irregular flapping movements of the hyperextended hands, dorsiflexed wrists in hepatic, renal and respiratory failure), *Myoclonic jerking*.
- Autonomic signs such as tachycardia, sweating, flushed face.

Emergencies in Delirium

Abusive and Violent Behaviour, Agitation and Aggression, Insomnia

Course

Delirium usually develops over a short period of time. It begins quite abruptly. The duration of an episode is usually brief, about one week.

The *complications* of delirium may be due to injuries (falling out of bed due to frightening hallucination), agitation (may interfere with medical treatment; or may cause injuries to neighbouring patients, hospital personnel or *suicide*, dementia, and rarely amnestic syndrome or organic personality syndrome.

Table 4.4: How a patient presents in delirium

- Presence of physical cause
- Clouding of consciousness and disorientation
- Difficulty in shifting, focusing and sustaining attention
- Thinking is fragmented, disjointed or totally disorganized.
- Disturbance in sleep–wakeful cycle manifesting as drowsiness, stupor or semicoma
- Dystonia dysgraphia, focal signs
- Emotional disturbances
- Deterioration of symptoms usually in the evening (sun downers)
- May cause injuries to self or neighbouring patients or hospital personnel.
- Often sudden onset following a physical cause (fever, metabolic disturbance, etc.)

Differential Diagnosis

- *Dementia*: The clinical comparison between delirium and dementia is given in **Table 4.1**.
- *Other organic disorders*, e.g. organic hallucinosis or organic delusional disorder.
- *Functional psychoses*, e.g. schizophrenia and other psychotic disorders.
- *Factitious disorder with psychological symptoms*: Inconsistencies in tests on mental status and a normal EEG differentiates them from delirium.

Management

- The treatment is aimed at maintaining vital functions (BP, temperature, hydration), correcting underlying medical disorders and reducing the disturbing psychological and behavioral symptoms.
- The drugs which precipitate delirium (e.g. cimetidine, digoxin, aminophylline, centrally acting beta blockers, anticonvulsants, etc.) should be avoided. The low dose of benzodiazepines especially lorazepam 1–2 mg, clonazepam (0.5–2 mg) and newer drugs like alprazolam (0.5–1.5 mg), buspirone (10–20 mg) and haloperidol (5–15 mg) are preferred in delirious patients (in hepatic failure, lorazepam is preferred).
- Family should be provided with reassuring information about the illness and its complications.

DEMENTIA

Dementia is defined as a loss of intellectual abilities of sufficient severity to interfere with social or occupational functioning. In addition, there should be objective evidence of impairment in long-term memory. Dementia occurs in clear sensorium. If consciousness is clouded, delirium should be considered.

Epidemiology

Prevalence of dementia in South Asia is about 1.9%. In India, prevalence ranges from 2 to 35 per 1000 persons. Alzheimer's disease is the *most common* dementing disorder.

Etiology

The common causes of dementia are given in **Table 4.2** (Mnemonic "*Vindictive Mad*").

Alzheimer's disease, accounts for 50–60% of all cases in the elderly.

- **Alzheimer's disease (dementia of Alzheimer's type or DAT)**
Popularly known as "*the disease of the century*", it is the commonest degenerative cause of senile (over age 65) and presenile dementias (before age 65).

Epidemiology

The exact prevalence of this disease in India is not known. In United States, it is estimated that the disease 1.5 to 2 million people and that at least 1 lac of them die every year.

Pathology

Neurofibrillary tangles (i.e. microscopic filamentous paired helical filaments). *Senile plaques* (i.e. clusters of degeneratives, nerve endings containing amyloid) and less prominently, *granulovacuolar changes* are present in great numbers and over a greater expanse.

Clinical Features

The clinical features of dementia (senile or presenile) of Alzheimer's type are described in Table 4.5.

Emergencies in Dementia

Wandering away, uncooperativeness, violent behavior, not recognizing, insomnia, neglecting self, resisting care.

Differential Diagnosis

- Multiple cerebral infarcts: Infectious diseases, alcohol abuse, metabolic disturbances, normal pressure hydrocephalus, etc.

Table 4.5: Clinical symptomatology associated with presenile-senile dementia (Alzheimer type)

<i>Stage cognitive</i>	<i>Emotional</i>	<i>Perceptual</i>	<i>Physiological</i>	<i>Behavioural</i>
I. Early (stage of forgetfulness)				
Increased "forgetfulness." Decreased concentration of tasks Difficulty with decisions Problems with "Word finding"	Fatigability, weakness Irritability and emotional outbursts with slight provocation Vague fearfulness Diminished ability to show affection	Occasional dizziness	Nonrestful sleep Changes in eating and sleeping patterns	Neglect of lifelong routines Decreased social and family interests Decreased recreational and occupational interest No goal or future plan
II. Middle (stage of clouded consciousness)				
Deficits of attention and concentration Memory impairment for both recent and remote events Impaired ability to learn new information Disorientation, for time and space	"Catastrophic" crisis to difficult tasks Unmodulated emotional liability Vacant expression	Distorted and dulled perceptions of environment without appropriate responsiveness to meaningful or alerting stimuli	Restlessness and wandering at night and disruption of sleep cycle. Decreased nutritional intake Neurological signs, such as ataxias, incoordination, gait disturbances, Slowing of EEG	Deterioration in dressing, grooming, cleanliness. Preservation of automatic acts but deterioration of learned skills. Stereotyped, trivial "orderly" behaviors. Little responsibility to social, familiar to recreational situation
III. Late (stage of dementia)				
Gross deterioration of all higher cortical functions, including concentration, memory, learning, problem solving	Total flat and shallow mood Emotional incontinence or affectless crying or laughter	Unawareness or indifference to sensory environment	No food taking Presence of frontal release sign Spastic and rigid extremities with increased deep tendon reflexes Paraplegia in flexion Gross urinary and bowel incontinence	Little recognition or responsiveness to friends or family members

Alzheimer's disease is commonly insidious and steadily progressive, whereas multiinfarct dementia is abrupt in onset and progresses incrementally. Similarly, the presence of focal localizing neurological signs and a history of cerebrovascular disease and hypertension increases the likelihood of multi-infarct dementia.

- Normal process of aging.
- Delirium.
- Schizophrenia.
- Major depression (**Table 4.6**).
- Factitious disease with psychological symptoms.

Table 4.6: Features differentiating pseudodementia from dementia

Features	Pseudodementia	Dementia
History and Course		
• Past psychiatric history • Onset • Duration of symptoms • Loss of social skills • Diurnal variation • Effort to cope • Family awareness of dysfunction of its severity • Course (progression of symptoms)	Likely Dated with some precision (subacute; weeks) Short (months) Early, prominent Worse in morning Poor Present Rapid progression	Less likely Dated only within limits (Insidious; months) Long (years) Late, concealed Worse at night Good Often unaware Slow
Clinical Presentation		
• Behaviour • Thought processes • Thought content • Affect • Mood • Grooming • Concern about illness • Complain	Incongruent with severity Sluggish/monosyllabic Narrow Monotonous Pervasive dependency Dishevelled (careless) Distressed Much of cognitive loss (detailed)	Compatible Pressured/circumstantial Board Labile Unconcerned, shallow Inappropriate attempt Appear unconcerned Little (vague)
Cognitive Testing		
• Motivation • Attention • Orientation • Answer • Simple calculations • Memory loss • Response to testing • Variability in performance	Gives up easily Often well preserved Better than expected "Don't know" type Gross errors Recent remote, gaps Highlights failure Marked	Tries to comply Faulty Mistakes unusual for usual "Near miss" Recent remote (no gaps) Pleased with successes Global/consistent Nil
Physical Examination		
• Gait • Reflexes	Normal Normal	Wide based Release reflexes (palmomental/snout)

Contd...

Table 4.6: Features differentiating pseudodementia from dementia (Contd...)

Features	Pseudodementia	Dementia
Laboratory Investigations		
• CT scan (gross)	Normal (except in aged)	Cortical sulcal widening, ventricular enlargement (Fig. 4.1)
• Mean CT scan numbers	Normal	Cortical atrophy (normal in reversible causes or early in disease)
• PET scanning	Often normal	Low
• Cerebral blood flow		Decrease in metabolic activity
• Sodium pentothal interview	Temporary improvement	May be reduced (proportional to severity of dementia)
Treatment		
Antidepressant drugs or electroconvulsive therapy	Improves	Worsening
		May worsen

Management

- *To treat what is treatable:* Treating the treatable focuses on the use of the appropriate psychopharmacological agents to relieve the non-cognitive symptoms such as depression, agitation, hallucinations, delusions and sleep disturbance. Modest results have been obtained with cholinesterase inhibitors (Rivastigmine*, Tacrine, Donepezil, Metrifonate, Galantamine, Physostigmine, Tetrahydroamino acridine) and acetylcholine precursors (lecithin, choline, phosphatidylcholine, arecholine). Cerebral vasodilators, stimulants, nootropics and neuropeptides are also useful.

The common emergency situations include agitation, aggression, wandering, insomnia, anxiety and psychotic features. Antipsychotics, e.g. haloperidol, risperidone, olanzapine, quetiapine, aripiprazole and benzodiazepines are used in low doses and for shorter duration.

- The support of patient and the caregiver.

• Multi-infarct Dementia (MID) (Vascular Dementia)

It is the second most common form of dementia after Alzheimer's disease. The essential feature of this dementia is a stepwise deterioration in intellectual functioning that early in the course leaves some intellectual functions relatively intact (*Patchy deterioration*).

Focal neurological signs and symptoms and evidence of significant cerebrovascular disease (judged to be etiologically related to the disturbance) are often present.

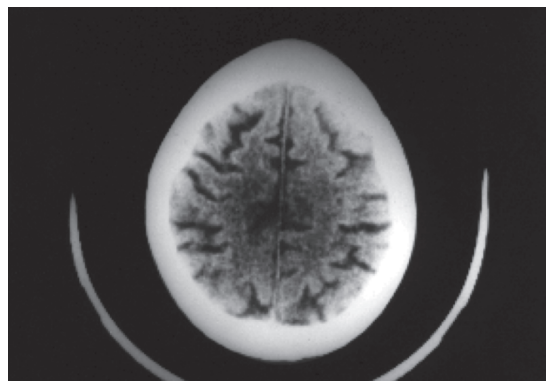


Fig. 4.1: CT scan in Alzheimer's disease showing cortical atrophy, prominent sulci and gyri and ventricular dilatation

Epidemiology

The prevalence of vascular dementia in contrast to Alzheimer's disease is 10% versus 50%. The onset of MID is apparently earlier than that of primary degenerative dementia. It is apparently more common in men.

Clinical Features

There are two common distinct types of multi-infarct dementia.

1. *Cortical dementia* (atherosclerotic or hypertensive disease of large arteries). It is marked by:
 - Recurrent transient ischaemic episodes and small strokes with gradual deterioration.
 - Neurological signs (small stepped gait, reflex asymmetries, transient Babinski, hemianopia, dysarthria, etc.) are transiently quite prominent.
 - Nonspecific confusional episodes, apraxia (constructional), agnosia, aphasia, difficulties with topography, dressing and manual construction are common.
2. *Subcortical* (hypertensive small-vessel disease): Also called "*Lacunar syndrome*" by Fisher, is due to bilaterally scattered small infarcts. There are episodes of strokes. It has steadily, deteriorating course. *Pseudobulbar palsy* is the neurological hallmark of this disorder, with stiff stumbling gait, bilateral long tract signs, dysarthria, blank facial expression and other brain stem and upper motor neurone signs.

Emergencies in Dementia

Wandering away, uncooperativeness, violent behavior, not recognizing, insomnia, neglecting self, resisting care.

Differential Diagnosis

Cortical MID: Table 4.7.

Treatment

Primary prevention aims at removing risk factors (i.e. hyperlipidemia, smoking, obesity, diabetes mellitus and hypertension). Secondary prevention aims at early recognizing vascular inflammatory disorders.

Table 4.7: Differences between cortical and subcortical dementias

Characteristics	Cortical dementia	Subcortical dementia
Site of lesion	Cortical (frontal and temporoparieto-occipital areas and hippocampal)	Subcortical (thalamus, basal ganglia, rostral brainstem)
Examples	Alzheimer's disease	Huntington's, chorea, Parkinson's disease, progressive supranuclear palsy, Wilson's disease, AIDS
Severity	Severe	Mild to moderate
Personality	Normal (unaware, lack of insight)	Depressed or apathetic
Motor system		
• Posture	Normal	Impaired (stopped or twisted)
• Gait	Normal	Impaired (ataxic)
• Movement	Normal	Impaired (chorea, rigidity, tremors)
• Activity	Normal	Impaired (slow)
• Speech	Normal	Impaired (dysarthria, hypophonia)
Mental state		
• Language	Aphasia	Normal
• Memory	Amnesic	Forgetful
• Visuospatial skills	Impaired (severe)	Impaired (moderate)
• Cognition	Impaired (severe, amnesia, agnosia, apraxia, acalculia)	Impaired (slowed, forgetfulness, impaired problem-solving strategy)
Important causes	Senile dementia, presenile dementia (Alzheimer's, Pick's, Creutzfeldt disease), etc.	Progressive supranuclear palsy; Huntingoton's chorea Parkinson's disease, Wilson's disease.

The effects of a completed stroke cannot be reversed but transient ischemic attacks can be treated with anticoagulation. Antiplatelet aggregation drugs can also be used to reduce incidence of strokes. Depression is a common complication (over 60%) and responds to antidepressants. Pseudobulbar palsy can be treated with amantadine or L-dopa.

- **Dementia Associated with Alcoholism**

The essential feature is dementia associated with prolonged and heavy ingestion of alcohol for which all other causes of dementia have been excluded. The mental changes of dementia should persist at least three weeks after the cessation of prolonged heavy drinking in order to make this diagnosis.

Epidemiology

Alcoholism is the *third commonest cause* of dementia. In India, it is diagnosed much more frequently in men. Dementia occurs after 15–20 years of very heavy drinking.

Etiology and Pathology

Vitamin B1 (thiamine) deficiency leads to median thalamic, diencephalic, periventricular and upper brainstem lesions, with focal cell loss and small haemorrhages.

The frontal lobes are most commonly affected followed by parietal and temporal lobes.

Clinical Features

It may initially present as personality changes of frontal lobe type. Alcoholics manifest increasingly disregard for social conventions, lack foresight and planning, appear poorly motivated, labile, shallow or apathetic affect, increasing forgetfulness, slowing of cognitive processes and inability to remember important events herald the onset of dementia. Global deterioration may be due to chronic hepatic encephalopathy, respiratory failure due to smoking, metastatic and hormonal effects of neoplasm, anaemias (folate, iron and vitamin B₁₂) (**Table 4.8**).

Differential Diagnosis

- Alcohol amnesic disorder.
- Other causes of dementia (**Fig. 4.2**).

Management

Energetic medical treatment, detoxification and good nutrition can significantly improve the mental state of chronic alcoholics within a few weeks (3 to 4 weeks) after which there is more gradual improvement detectable at 6 months.



Fig. 4.2: X-ray skull (AP view) showing silver beaten appearance in raised intracranial pressure

ORGANIC DELUSIONAL DISORDER

The essential feature is the presence of delusions that occur in a normal state of consciousness and that are due to a specific etiologic factor.

Table 4.8: How a patient presents in dementia

- Loss of intellectual abilities (especially memory) disproportional to age.
- No disturbance of consciousness
- Increased 'forgetfulness' (especially of names)
- Decreased concentration for tasks
- Difficulty with decisions
- Problems with word finding
- Impaired ability to learn new information
- Irritability, emotional outbursts, labile mood
- Neglect of lifelong routines
- Decreased social and family interests
- Decreased recreational and occupational interest
- Deterioration in day-to-day routines (e.g. dressing) especially of learned skills
- Disturbance in sleep, nutritional intake and caring for personal hygiene
- Decreased or little responsibility towards friends or family
- Gradual onset, progressive deteriorating course

Etiology

- Amphetamines, cannabis, hallucinogens, alcohol (hallucinogens, e.g. LSD may cause organic delusional disorder analogous to '*flash back*' hallucinations).
- Temporal lobe epilepsy in which interictal organic delusional syndrome may appear.
- Huntington's chorea (paranoid features are prominent).
- Cerebral lesions (e.g. in nondominant hemisphere).
- Multiple sclerosis, SLE, Wilson's disease.

Clinical Features

Persecutory delusions are the *most common* type. Depersonalization and hallucinations may be present but are not predominant. Mild cognitive impairment, perplexed, disheveled or eccentrically dressed, abnormalities of psychomotor activity or apathetic immobility.

Differential Diagnosis

- Delirium.
- Organic hallucinosis.
- Organic mood syndrome.
- Nonorganic psychotic disorders

Management

The underlying cause needs to be identified and treated. The temporal lobe or diencephalic conditions may be treated with anticonvulsants especially carbamazepine. Neuroleptics may be used to control delusional disorder.

ORGANIC HALLUCINOSIS

The essential feature is the presence of persistent or recurrent hallucinations that occur in a normal state of consciousness and that are attributable to a specific organic factor.

Etiology

The most common cause of isolated hallucinations is an *intoxication*. Hallucinogens, phencyclidine and cannabis are the main offenders but therapeutic drugs, e.g. digitalis, antiarrhythmic agents, cimetidine, high dose IV penicillin, and a variety of anticholinergic agents and other drugs, e.g. anticonvulsants, neuroleptics or sedatives (antihistaminics, benzodiazepines) in overdosage may produce this.

The other causes may be sensory deprivation (as in blindness or deafness), seizure foci in the temporal and occipital lobes, tumors of occipital lobes, cerebrovascular accidents (infarcts) and classical migraine.

Clinical Features

Hallucinogens or blindness most often cause visual hallucinations, *whereas alcohol or deafness may produce auditory hallucinations*. Delusions are not prominent and only related to the content or belief in the reality of hallucinations.

Accidents may occur in attempting to flee from frightening hallucinations.

Differential Diagnosis

- *Other organic disorders*. In delirium, hallucinations, if present, occur with clouded consciousness. In *dementia*, hallucinations if present are associated with general loss of intellectual abilities. In *organic delusional syndrome*, hallucinations are overshadowed by prominent delusions while in organic mood syndrome, the major disturbance is of mood.
- Schizophrenia and affective disorders.
- Hypnagogic and hypnopompic hallucinations.
- *Charles Bonnet syndrome*: It refers to visual pseudohallucinations occurring especially in elderly people with reduced visual activity.

Management

It is better that safer to 'talk the patient down' than to treat with drugs. In persistent hallucinosis, empirical treatment with haloperidol (up to 5 mg per day) or carbamazepine (up to 200 mg per day) may be tried.

ORGANIC MOOD (AFFECTIVE) SYNDROME

The characteristic feature of this syndrome is a disturbance in mood, resembling either a manic episode or a major depressive episode, that is due to a specific organic factor.

Etiology

Refer to Table 4.9.

Clinical Features

The clinical phenomenology of this syndrome is same as that of a manic or major depressive episode. The severity of the disturbance may range from mild to severe.

Differential Diagnosis

- Other organic disorders, delirium, dementia, organic hallucinosis, organic delusional syndrome.
- Functional mood disorders.
- Organic personality syndrome.

Table 4.9: Causes of organic mood syndrome

Depression type	Manic type
Medications - Antihypertensives, e.g. reserpine, clonidine, methyl dopa, beta blockers (propranolol, pindolol), calcium channel blockers (verapamil), neuroleptics, antihistaminics - Other Disulfiram, metoclopramide, oral contraceptives, propylthiouracil, alcohol, hypnotics, withdrawal from stimulants	Medications Corticosteroids, corticotropin, thyrotropin, L-dopa, MAO inhibitors, tricyclic antidepressants, bromocriptine, cocaine, amphetamine, LSD, baclofen
Endocrine disorders Hypothyroidism, Cushing's syndrome, Addison's disease, hyper- or hypoparathyroidism, hyperprolactinemia, hypoglycemia, postpartum or premenstrual.	Endocrine disorders Hyperthyroidism, Conn's syndrome
Metabolic disease Hypercalcemia, thiamine deficiency, pellagra, vitamin B ₁₂ deficiency	Metabolic causes Hypercalcemia
Infections Influenza, neurosyphilis, AIDS, systemic immunodeficient EB virus syndrome	Infections Neurosyphilis
Cerebrovascular Cerebrovascular accidents	Cerebrovascular Infarcts
Others Parkinsonism, Huntington's chorea, Marchiafava-Bignami disease, seizure disorder, Sjögren's disease, temporal arteritis	Others Multiple sclerosis, seizure disorder, SLE, etc.

Management

Successful treatment of organic mood syndromes is achieved by treatment of the underlying disease. If the mood syndromes cannot be reversed after the reversal of the organic factor, antidepressants and psychotherapy (in case of depression type) or a combination of lithium and antipsychotics (in case of manic type of syndrome) may be used.

ORGANIC PERSONALITY SYNDROME

The characteristic feature is a marked change in personality that is due to a specific organic factor but that is not due to any other organic mental syndrome.

Etiology

The most common causes are neoplasms (glioma or meningiomas of frontal lobes), head injury (including postconcussion syndrome), vascular disease, temporal lobe, epilepsy, neurosyphilis, multiple sclerosis, Huntington's chorea, metabolic disorders, uremia, hypoxemia, endocrine disorders (thyroid and adrenocortical disease) and ingestion of certain substances.

Clinical Features

A common pattern is characterized by emotional lability and impairment in impulse control or social judgment, temper outbursts, belligerent, sudden bouts of crying with a little or no provocation, sexual indiscretions. In temporal lobe epilepsy, there is marked humourless verbosity in both writing and speech, religiosity and occasionally exaggerated aggressiveness.

Mild cognitive impairment and irritability may be seen.

Differential Diagnosis

- Dementia.
- Organic mood disorder.
- Attention deficit disorder.
- Nonorganic disorders.
- Personality changes in epilepsy.

Management

Disinhibited violent behavior may respond to antipsychotics, carbamazepine, lithium or propranolol. If epilepsy is the underlying cause, carbamazepine may be used. Patients with head injury (frontal lobe syndrome) require supervision, structured environment and custodial care.

ORGANIC ANXIETY SYNDROME

It is characterized by prominent, recurrent, panic attacks, which are etiologically related to the organic factor but not occurring exclusively during the course of delirium.

Etiology

The common causes of this syndrome are given in **Table 4.10**.

Differential Diagnosis

- Other organic disorders: Delirium, organic delusional syndrome.
- Anxiety neurosis.
- Other nonorganic psychosis.

Management

Removal of the primary cause and symptomatic treatment with drugs, e.g. benzodiazepines, beta-blockers may help in the managing the patients.

Table 4.10: Causes of organic anxiety syndrome

• Substance use – Tobacco, alcohol withdrawal – Caffeine intoxication – Excessive use of sympathomimetics or stimulants – Withdrawal from sedatives or some antihypertensives • Endocrine disorders – Pheochromocytoma – Hyperthyroidism – Reactive hypoglycemia – Addison's disease – Pituitary deficiency – Cushing's syndrome – Hyperparathyroidism	• CNS disorders – Partial complex seizures – Transient ischemic attacks – Cerebral tumors – Multiple sclerosis – Subdural hematomas – Huntington's disease – Wilson's disease • Others – Mitral valve prolapse
--	---

ORGANIC CATATONIC DISORDER

According to the ICD-10 the following features are required for the diagnosis of organic catatonic disorder, in addition to the general guidelines for the diagnosis of other organic mental disorders, described earlier:

- Stupor (diminution or complete absence of spontaneous movement with partial or complete mutism, negativism, and rigid posturing);
- Excitement (gross hypermotility with or without a tendency to assaultiveness);
- Both (shifting rapidly and unpredictably from hypo- to hyperactivity).

Presence of the other catatonic phenomena increases the confidence in the diagnosis. The catatonic symptoms and signs are described in detail in Chapter 2.

Etiology

The etiology and management of organic catatonic disorder is described in detail in Chapter 28.

Management

- Treatment of the underlying cause, if amenable to treatment.
- Symptomatic treatment with antipsychotics and electroconvulsive therapy (if needed).

INTOXICATION/WITHDRAWAL SYNDROMES

The important characteristics of these disorders are given in **Table 4.11**.

Toxicity	Drugs
Behavioural	
• Drowsiness	Benzodiazepines, anticonvulsants, phenothiazines, tricyclic anti-depressants* anti-histaminics, hypotensives.
• Vivid dreams and nightmares	Barbiturate or benzodiazepines withdrawal, beta blockers, methyl dopa, clonidine, reserpine, baclofen, fenfluramine.
• Behavioural	Benzodiazepines, anticonvulsants, levodopa + carbidopa, lithium + neuroleptics.
Delirium	Tranquilizers and hypnotics (Barbiturates; benzodiazepines, bromides, phenothiazines); Cardiotherapeutic (digitalis, diuretics, beta blockers); anticholinergics (atropine, hyoscine, tricyclic antidepressants, antiparkinsonians); Dopamine agonists (levodopa, bromocriptine, amantadine); antituberculars (INH, Rifampicin, cycloserine), anticonvulsants (phenytoin, valproate); anti-infective (streptomycin, sulfa); drug withdrawal (alcohol, barbiturates, benzodiazepines, chloremethiazole); others (disulfiram, cimetidine, chloroquine, oral hypoglycemics, piperazine).
Paranoid or schizophrenia-like	Hallucinogens (lysergide, psilocybin, mescaline, phencyclidine, DOM, cannabis); Stimulants (amphetamines, cocaine, appetite stimulants, nasal decongestants); Depressants (alcohol, barbiturates, antihistaminics, bromides, chloral, anticonvulsants); Anti-Parkinsonian* (Levodopa, bromocriptine, anticholinergics); Cardiovascular* (digitalis, hydralazine, methyl dopa, disopyramide, stramonium); Anti-infective (antituberculars, antimalarials, antibiotics, sulfa); metals (lead, arsenic, thallium); Vegetable poisons (Ergot, Lathyrus, mushroom); Others (corticosteroids, ACTH, indomethacin*, disulfiram)
Hypomania and mania	Tricyclic antidepressants or MAO inhibitors, corticosteroids, ACTH, levodopa, opiates, cyclizine, amantadine, aminophylline, aspirin, bromocriptine, amphetamines
Depression	Hypotensives (reserpine, methyl dopa, clonidine); Major tranquilizers (chlorpromazine, thioridazine, haloperidol, fluphenazine, flupenthixol); Stimulants withdrawal (amphetamines, fenfluramine); Others (levodopa, steroids, oral contraceptives)

*May produce isolated hallucinations

PSYCHIATRIC SIDE EFFECTS OF MEDICAL DRUGS

The various group of drugs used to treat medical disorders may have psychiatric side effects. These are illustrated in detail in **Appendix I**.

APPENDIX I: Psychiatric side effects of medical drugs		
Group	Examples	Psychiatric side effects
Antihypertensives Rauwolfia alkaloids	Reserpine, deserpidine	Nightmares, depression (suicidal tendencies), rarely nervousness, paradoxical anxiety, decreased libido, Parkinson like syndrome.
- Ganglion blocking agents - Sympathetic nervous system depressants	Trimethaphan and mecamlamine Guanethidine Methyldopa	Tremor, confusion Depression, parkinsonism, diminished cognition, choreoathetotic movements, nightmares, psychosis
- Acting on vascular smooth muscle - Calcium channel blockers	Hydralazine Verapamil Lidocaine	Depression, disorientation, anxiety Depression Transient excitement, depression, restlessness, euphoria, apprehension
Antiarrhythmic	Propranolol Digoxin	Hallucinations, insomnia, incoordination Disorientation, confusion, depression, aphasia, delirium, hallucinations (especially in elderly)
Cardiac glycosides	Nylidrin	Nervousness
Peripheral vasodilators Antimicrobials Sulfonamides	Sulfadiazine Mafenide Sulfamethizole Sulfacetamide Sulfisoxazole	Depression Psychosis Restlessness Irritability May cause retardation if given during 3rd trimester to nursing mother or to children less than 2 months old
- Sulfones - Anti-tubercular drugs	Dapsone and Suboxone Cycloserine Ethionamide INH	Nervousness, insomnia, psychosis Confusion, lethargy, psychosis Depression Toxic psychosis, paresthesias, excitement, Euphoria
Antimalarials	Rifampicin Chloroquine	Confusion Fatigue, lassitude, nervousness, irritability, psychosis, seizures
Anthelmintics Amoebicidal and tricho-monacides Hypocholesterolemic and antilipemic agents	Amodiaquin Tetrachlorethylene and quinacrine Metronidazole Nicotinic acid Dextrothyroxine sodium	Spasticity Delirium, psychosis, inebriation Confusion, irritability, depression, insomnia Nervousness, Panic reactions Insomnia, nervousness, bizarre subjective complaints

Contd....

APPENDIX I: Psychiatric side effects of medical drugs (Contd...)

Group	Examples	Psychiatric side effects
Narcotic analgesics	Codeine Morphine, fentanyl, pentazocine Methadone Meperidine and congeners	Mental clouding, euphoria, excitement, restlessness, delirium, insomnia Dysphoria, nightmares, hallucinations, psychological dependence, agitation, euphoria Dysphoria, hallucinations, disorientation, delirium, extrapyramidal symptoms
Narcotic antagonists	Levallorphan	Dysphoria, bizarre or unusual dreams, visual hallucinations, disorientation, derealization
Non-narcotic analgesics	Salicylates Para-aminophenol derivatives (acetaminophen phenacetin) Fenoprofen Indomethacin Naproxen Propoxyphene	Emotional disturbances (mimic alcohol inebriation) Hyperventilation, agitation Confusion, excitement, delirium, psychological dependence Confusion, nervousness, insomnia Confusion, depression, psychosis Depression, decreased concentration Euphoria, dysphoria, psychological dependence
Adrenergic (sympathomimetic drugs)	Tolmetin Dopamine, ephedrine, epinephrine, isoproterenol, phenylephrine, metaraminol, phenylpropanolamine	Tension, nervousness Excess stimulation, insomnia, restlessness, nervousness, tremor
Theophylline derivatives	Pseudoephedrine Aminophylline, deriphylline and theophylline	Same as above
Adrenergic blocking drugs	Methysergide	Depersonalization, depression, confusion
Cholinergic blocking agents	Atropine sulfate, homatropine, belladonna, benztropine, biperiden, ethopropazine, glycopyrrolate, hyoscyamine, orphenadrine, procyclidine, scopolamine and trihexyphenidyl	Restlessness, delirium, hallucinations, paranoid psychosis
Mydriatics and cycloplegics	Atropine sulfate, homatropine Tropicamide, scopolamine	Disorientation, delirium Psychosis Irritability, confusion, hyperactivity, delirium, hallucinations
Insulin and oral hypoglycemics	Insulin	Nervousness, confusion, diminished coordination, psychosis
Hormones	Oral hypoglycemics, corticotropin, cortisone, dexamethasone, hydrocortisone, prednisolone, triamcinolone thyroid preparations	Confusion, paresthesia Euphoria, manic-depressive states, psychosis, aggravation of existing emotional instability or psychotic tendencies, nervousness, agitation, hyperirritability, insomnia, twitching, tremors

Contd....

APPENDIX I: Psychiatric side effects of medical drugs (Contd...)

Group	Examples	Psychiatric side effects
Diuretics	Oestrogens	Irritability, depression, paresthesia, lassitude, anxiety, insomnia Marked mood swings
	Combined oestrogen-progestin combinations	
	Acetazolamide, ethoxzolamide	Irritability, disorientation
Antihistaminics	Xanthines	Nervousness, insomnia, restlessness, irritability, delirium
	Ethacrynic acid	Confusion, apprehension
	Spironolactone	Confusion
Vitamin B complex	Bromodiphenhydramine, carbinoxamine maleate, chlorpheniramine, cyclizine, diphenhydramine, meclizine, promethazine, triprolidine	Decreased coordination, paradoxical excitation, especially in children, restlessness, nervousness, delirium, seizures, personality changes, hallucinations
	Leucovorin	
		Diminished concentration, altered sleep patterns, irritability, hyperactivity excitement, depression, confusion, impaired judgment
Antitussives	Non-narcotic antitussives (chlophedianol)	Excitation, hyperirritability, nightmares, hallucinations
Antidiarrhoeal agents	Expectorants (ammonium chloride)	Confusion, excitement, hyperventilation
Antiemetics	Diphenoxylate	
Antiparkinsonians	Diphenidol	
	Metoclopramide	Euphoria, depression
	Carbidopa	Hallucinations, disorientation, Extrapyramidal syndrome
CNS and respiratory stimulants	Levodopa	Twisting of tongue, grimacing, waving of hands, neck and feet, bruxism, jerky and involuntary movements, dyskinesia, agitation, anxiety, confusion, depression, antisocial behavior, suicidal tendencies, increased libido, mood swings
		Insomnia, paradoxical increased depression, agitation in depressed patients, depression, disorientation, hallucination, psychic dependence, paranoia, schizophreniform psychosis, weight loss, euphoria, lethargy, anxiety and fearfulness, formication
		<i>Rare and Serious Side Effects</i>
	Methylphenidate	Tourette syndrome, tics, depression, growth retardation, psychosis, hallucinations, stereotype activities
	Pemoline (only)	Nervousness, insomnia, psychological dependence
		Choreiform movements, night terrors, lip licking or biting

Contd....

APPENDIX I: Psychiatric side effects of medical drugs (Contd...)

Group	Examples	Psychiatric side effects
Antiepileptics and hypnotics	Barbiturates	Excitement, euphoria, restlessness, delirium, psychological dependence, nervousness
	Bromides	Bromide psychosis, depression
	Chloral hydrate	Paranoid reaction, chloral delirium, somnambulism
	Ethinamate	Paradoxical excitement in children
	Glutethimide	Psychosis, confusion, delirium, hallucinations
	Methypylon	Paradoxical excitement, confusion
	Diphenhydantoin	
	Mephentoin	Hallucinations, delusions, extrapyramidal reactions
	Succimides	Confusion, psychosis, irritability, depression
	Methsuximide	Nervousness, apathy, euphoria, depression
Antipsychotics	Phanacemide	Personality change, confusion, severe depression
		Psychosis with suicidal tendencies, depression, aggressiveness
Antidepressants	Primidone	Irritability, hyperexcitability (particularly in children)
	Phenothiazines, butyrophenones, thioxanthenes	Parkinson's syndrome, akathisia, rabbit syndrome, tardive dyskinesia, seizures, sedation, depression, confusion, impotence, weight gain
Benzodiazepines	Tricyclic antidepressants	Sedation, tremors, aggravation of psychosis, mania, jitteriness, impotence, weight gain, seizures, confusion
	MAO inhibitors	Sedation, ataxia, muscular incoordination, clouding, memory impairment, impotence, disinhibited behavior, worsening pre-existing depression, psychosis, dependence, withdrawal syndrome
Lithium		
Anticancer agents	Dicarbazine	Tremors, seizures, cogwheel rigidity, myopathy, neurotoxicity, weight gain
	Vinblastine	Depression and suicide
	Vincristine	Frequent reversible depression
	L-asparaginase	Depression, hallucinations
	Procarbazine	Reversible depression
		Contraindicated with tricyclics and potentiate alcohol, barbiturates phenothiazines, MAOI, mania, depression, nervousness, insomnia, nightmares, delirium
	Hydroxyurea	Hallucinations
	Interferon	Anxiety, depression or suicidal ideation
	Steroids	Emotional lability, mania, severe suicidal depression, frank psychosis
	5-FU	Euphoria, insomnia, irritability
Drugs used in treatment of AIDS	Suramin sodium	Fatigue, fever
	Azidothymidine	Headache
	α -Interferon	Fatigue, weight loss