Introduction to Psychotic Disorders and Secondary=Organic Psychotic Disorders

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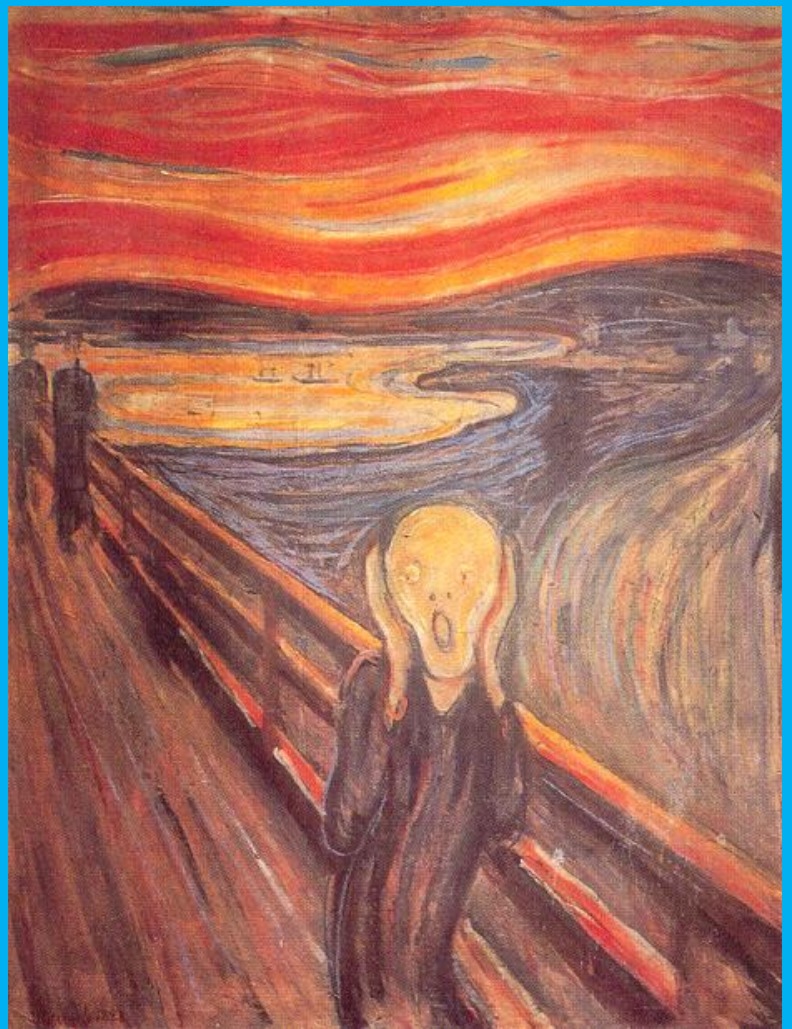


?What is Psychosis

Symptoms

DDX

Psychosis

Inability to distinguish between the reality and the inner world and stimuli

-OR- PROFESSIONALLY STATED

Severely impaired judgement, reality testing and behavior, accompanied by hallucinations and/or delusions

Psychosis

Person sees or hears things that are not there

Believes in things that are not real

Not in touch with reality

Might believe in aliens

Scared in fear, panic, worried

People might have heard term 'psycho' but not psychosis

Medication might help people feel more in control

?Why does it happen

Dopaminergic Theory

- Increasing levels of dopamine in the brain can cause psychosis
- Drugs that bind with dopamine receptors and block them can reduce positive psychotic symptoms.

Glutamate Theory

- Blocking NMDA receptors with ketamine causes psychosis

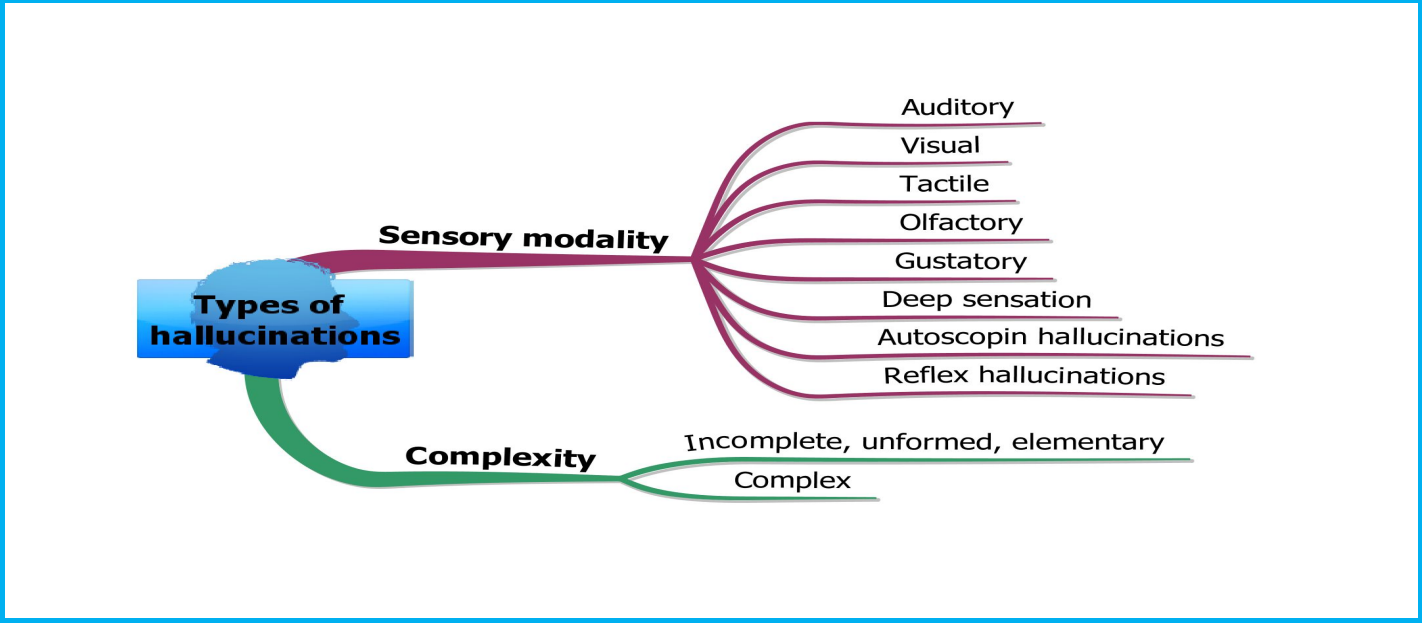
Signs of psychosis

- Hallucinations
- Delusions
- Bizarre or disorganized behavior
- Impaired thought process
- Impaired speech output
- Abnormal movements

Hallucinations

Abnormal perceptional experience unrelated to external stimuli

senses 5



Reasons for Hallucinations

- Primary psychiatric disorders
- Brain pathology
- Substances
- Disorders of cranial nerves
- Delirium
- Dementia

Auditory Hallucinations

Primary psychotic disorders- human voices, noises, command !hallucinations. Usually perceived as coming from outside

Substances- both intoxication and withdrawal. All types of voices and noises

CN7 tumors- tinnitus, music, vague noises. Usually perceived as !coming from within

Epilepsy and brain neoplasms- All types of voices and noises

Delirium and dementia- usually unclear voices and unformed phrases

Taste Hallucinations

Usually epilepsy and brain pathology

Very rare in primary psychiatric disorders

Do not perceive taste or perceive he “wrong” taste

Smell Hallucinations

Usually epilepsy and brain pathology

Rare in primary psychiatric disorders- possible in psychotic depression and in delusional disorder (halithosis)

Usually- unpleasant smells (decay, burned rubber)

Usually- patients perceive themselves as the source of the smell

Somatic and Tactile Hallucinations

- Usually epilepsy and brain pathology
- In primary psychiatric disorders- possible in delusional disorder (parasitosis)
- Substance- related: intoxication (cocain), withdrawal (alcohol)
- DDX: peripheral neuropathy
- Sense of “electricity”, “bugs crawling”, “worms”, “touch”, change in body shape

Visual Hallucinations

Usually epilepsy and brain pathology, migraines, visual impairment

In primary psychiatric disorders- possible in schizophrenia (rare! Usually simple geometrical forms)

Substance- related: intoxication (LSD), withdrawal (alcohol). Sometimes- with full insight

Delirium and dementia (DWLB). Usually people, sometimes familiar, or animals

DDX: flashbacks of PTSD, pseudohallucinations of Cluster B personality disorders, dissociation, bereavement

Table 1. Differential Diagnosis of Visual Hallucinations

- Dementia (eg, Alzheimer's disease, Lewy body dementia)
- Delirium
- Substance abuse
- Alcohol or sedative/hypnotic withdrawal
- Iatrogenic (eg, anticholinergics, antiparkinsonian agents, opioids)
- Primary psychiatric illness (eg, schizophrenia, mood disorders)
- Bereavement
- Charles Bonnet syndrome
- Seizures
- Migraine
- Peduncular hallucinosis

Lhermitte's peduncular hallucinosis

Rare neurological disorder
Visual hallucinations- vivid, detailed, often moving, exclusively in the dark
Last minutes
Dream like state with intact mentation
Very realistic
Usually consist of familiar people, places or objects

:Causes
Lesions in the thalamus, brainstem (compression by tumors), substantia nigra pars reticulata
Aura of basilar migraine localizable to the brainstem
After vertebral angiography
Vertebrobasilar insufficiency
Severe hypoplasia of vertebral artery

Table 1. Diagnostic Criteria of Charles Bonnet Syndrome[a]

- Visual hallucinations
- Severe visual impairment
- Partially/fully intact insight (patient aware visions are not real, despite appearing very real)
- No evidence of brain disease or other psychiatric disorder
- No other senses affected, such as taste, hearing, and smell

[a]Table based on information from reference 1 in the citation list.

MORE RECENTLY ALSO DIAGNOSED IN PATIENTS WITH MS, FRONTAL AND OCCIPITAL LOBE CHANGES, TEMPORAL ARTERITIS, AND PITUITARY TUMORS

WHY? BRAIN COMPENSATES FOR SENSORY DEPRIVATION

Release Hallucinations

ANY MODALITY BUT VISUAL MOST COMMON: DEPENDS ON END ORGAN AFFECTED

LESIONS ANYWHERE FROM THE EYE TO THE OCCIPITAL CORTEX

USUALLY REPETITIOUS AND NONTHREATENING BUT IRRITATING

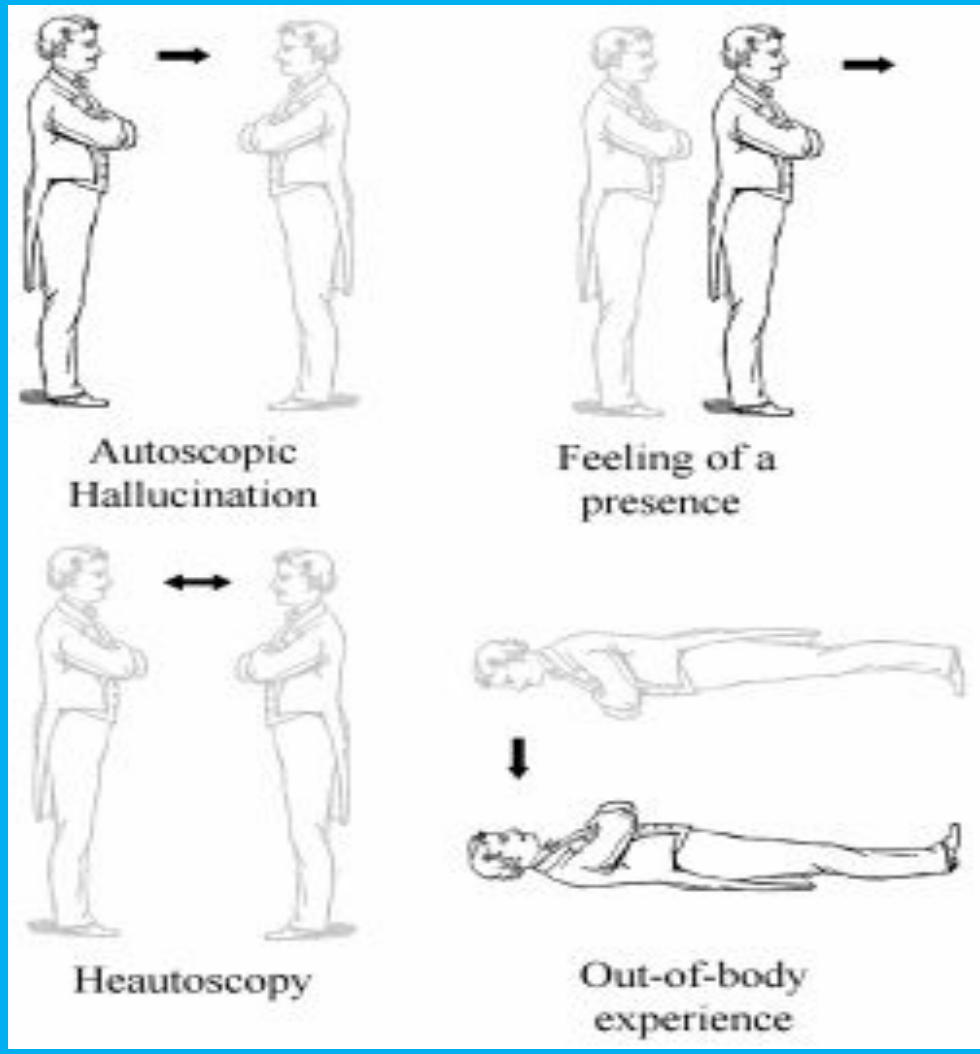
AWARENESS THAT THEY ARE NOT REAL

MODIFIED BY CHANGING VISUAL INPUT

THESE ARE MUCH MORE COMMON THAN THOUGHT AND UNDERREPORTED ".BECAUSE PEOPLE DO NOT WANT TO BE CONSIDERED "CRAZY

Out of Body Experiences

- Sleep
- Substances
- General anesthesia
- Neurological disorders



Autoscopic psychosis

The experience in which an individual perceives the surrounding environment from a different perspective, from a position outside of his or her own body

Autoscopic experiences are hallucinations

:Experiences - are characterized by the presence of the following three factors

,Disembodiment

impression of seeing the world from an elevated and distanced visuo-spatial perspective or extracorporeal, but egocentric visuo-spatial ;perspective

.impression of seeing one's own body from this perspective (autoscopy)

Heautoscopy - reduplicative hallucination of "seeing one's own body at a distance". It can occur as a symptom in schizophrenia and epilepsy

Polyopic heutoscopy - more than one double is perceived. Can result from a tumor in the insular region of left temporal lobe

Negative autoscopy (or negative heautoscopy) - the sufferer does not see his or her reflection when looking in a mirror

Migraine with Aura

Micropsy

Macropsy

Distortions

Flashes

Geometrical shapes

Hypnagogic/ Hypnapompic Hallucinations

Only upon falling asleep/ waking up

Very common

!Normal phenomenon

Seconds to minutes

Usually eith full insight

Narcolepsy

Children

Illusions

Unrealistic interpretation of realistic stimulus

!Normal

Common in the dark

Substance- Induced Visual Experiences

Hallucinogens

Intoxication- stimulants, cocaine, alcohol

Withdrawal- alcohol, BZ

Delirium Tremens

Alcohol / Benzo Withdrawal

(they are the same)

Wernicke's Encephalopathy

0 1 2 3 4 5 days

last drink

Seizures

Hallucinosis

Delirium Tremens (DTs)

Coarse tremor

Agitation

Confusion

Headache

Nausea/vomiting

ANS hyperactivity

Treatment

- Thiamine 100mg IM x3d
- Lorazepam 1-3mg Q1-4H
  OR
  Diazepam 5-10mg Q1-4H
- * Taper amount in 1st 24H by 25% per day

Treatment Options

ORGANICALLY BASED HALLUCINATIONS ARE USUALLY SELF-LIMITING. With after either end organ or central nervous system changes, they disappear a few days, months, or years. THE FIRST STEP IS TO REASSURE THE .PATIENT

:INTERVENTIONS

CHANGE PATIENT'S ENVIRONMENT

HASTEN END ORGAN CHANGE, E.G., CATARACT REMOVAL

.GOOD MEDICAL MANAGEMENT OF CNS RISK FACTORS, E.G., HTN, DM, ET AL

MEDICATIONS: DO NOT ROUTINELY USE CLASSIC NEUROLEPTICS

PEDUNCULAR HALLUCINOSIS: CLOZAPINE

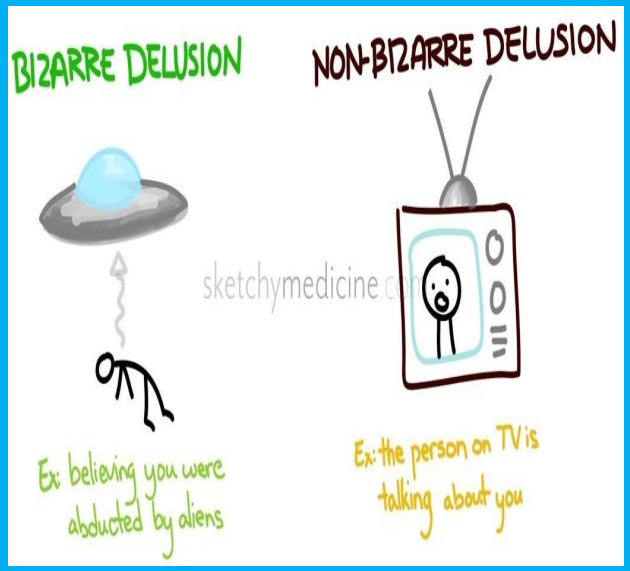
RELEASE HALLUCINATIONS: CARBAMAZEPINE, GABAPENTIN, MELPERONE, VALPROATE, CISAPRIDE

Delusions

False belief, based on the incorrect interpretation of the external reality, not in cultural context, not challengeable by rational explanations, affects the persons behavior and actions

Types of Delusions

Paranoid/persecutory
Ideas of reference
External locus of control
Thought broadcasting
Thought insertion, withdrawal
Jealousy
Guilt
Grandiosity
Religious delusions
Somatic delusions



Disorders of Thought

Alogia (also *poverty of speech*) – A poverty of speech, either in amount or content; it can occur as a negative symptom of schizophrenia

Blocking – An abrupt stop in the middle of a train of thought; the individual may or may not be able to continue theidea. This is a type of formal thought disorder that can be seen in schizophrenia

Circumstantiality (also *circumstantial thinking*, or *circumstantial speech*) – An inability to answer a question without giving excessive, unnecessary detail. This differs from tangential thinking, in that the person does eventually return to the original point

Clanging or *Clang association* – Ideas that are related only by similar or rhyming sounds rather than .actual meaning. This may be heard as excessive rhyming and/or alliteration. e.g

Many moldy mushrooms merge out of the mildewy mud on Mondays." "I heard the bell. Well, hell," ".then I fell

Derailment (also *loose association* and *knight's move thinking*) – Ideas slip off the topic's track on to . another which is obliquely related or unrelated

The next day when I'd be going out you know, I took control, like uh, I put bleach on my hair in" ".California

.*Distractible speech* – During mid speech, the subject is changed in response to a stimulus. e.g

"?Then I left San Francisco and moved to... where did you get that tie"

Disorders of Thought

Echolalia **– Echoing of another's speech that may only be committed once, or may be continuous in repetition. This may involve repeating only the last few words or last word of the examiner's sentences. This can be a symptom of Tourette's .Syndrome. e.g**

a **What would you like for dinner?", "That's a good question. *That's*" ".*good question*. *That's a good question*. *That's a good question***

Evasive interaction **– Attempts to express ideas and/or feelings about another individual come out as evasive or in a diluted form, :.e.g**

I... er ah... you are uh... I think you have... uh-- acceptable erm..." ".uh... hair

Flight of ideas **– Excessive speech at a rapid rate that involves fragmented or unrelated ideas. It is common in mania. "His boss "was a wheelchair**

Disorders of Thought

.*Illogicality* – Conclusions are reached that do not follow logically (non-sequiturs or faulty inferences). e.g
“?Do you think this will fit in the box?" draws a reply like "Well duh; it's brown, isn't it"

Incoherence (word salad) – Speech that is unintelligible because, though the individual words are real words, the manner in which they are strung together results in incoherent gibberish, e.g. the question "Why do people comb their hair?" elicits a response like
Because it makes a twirl in life, my box is broken help me blue elephant. Isn't lettuce brave? I like electrons, hello" "!please

Loss of goal – Failure to follow a train of thought to a natural conclusion. e.g. "Why does my computer keep crashing?", "."Well, you live in a stucco house, so the pair of scissors needs to be in another drawer

Neologisms – New word formations. These may also involve elisions of two words that are similar in meaning or in ".sound. e.g. "I got so angry I picked up a dish and threw it at the geshinker

.*Perseveration* – Persistent repetition of words or ideas even when another person attempts to change the topic e.g
It's great to be here in Nevada, Nevada, Nevada, Nevada, Nevada." This may also involve repeatedly giving the same" answer to different questions. e.g. "Is your name Mary?" "Yes." "Are you in the hospital?" "Yes." "Are you a table?" ."Yes." Perseveration can be an indication of organic brain disease such as Parkinson's

.*Phonemic paraphasia* – Mispronunciation; syllables out of sequence. e.g
".I slipped on the lice and broke my arm"

Pressure of speech – Unrelenting, rapid speech without pauses. It may be difficult to interrupt the speaker, and the .speaker may continue speaking even when a direct question is asked

.*Self-reference* – Patient repeatedly and inappropriately refers back to self. e.g
”.What's the time?", "It's 7 o'clock. That's my problem"

Disorders of Thought

.*Semantic paraphasia* – Substitution of inappropriate word. e.g
“.I slipped on the coat, on the ice I mean, and broke my book"

Stilted speech – Speech characterized by the use of words or phrases that are flowery, .excessive, and pompous e.g
".The attorney comported himself indecorously"

Tangentiality – Wandering from the topic and never returning to it or providing the .information requested. e.g
in answer to the question "Where are you from?", a response "My dog is from ".England. They have good fish and chips there. Fish breathe through gills

Word approximations – Old words used in a new and unconventional way. e.g. “His ”boss was a seeover

Behavior

Bizarre dress and appearance

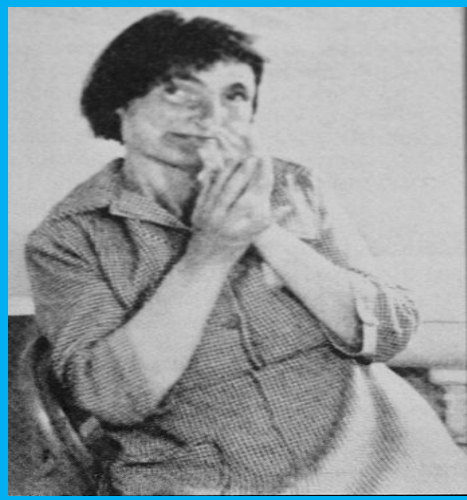
Catatonia

Loss of impulse control

Aggression and extreme irritability

Stereotypic speech and behavior

Mannerisms



Catatonia

Stupor (i.e., no psychomotor activity; not actively relating to environment)

Catalepsy (i.e., passive induction of a posture held against gravity)

Waxy flexibility (i.e., slight, even resistance to positioning by examiner)

Mutism (i.e., no, or very little, verbal response [exclude if known aphasia])

Negativism (i.e., opposition or no response to instructions or external stimuli)

Posturing (i.e., spontaneous and active maintenance of a posture against gravity)

Mannerism (i.e., odd, circumstantial caricature of normal actions)

Stereotypy (i.e., repetitive, abnormally frequent, non-goal-directed movements)

Agitation, not influenced by external stimuli

Grimacing

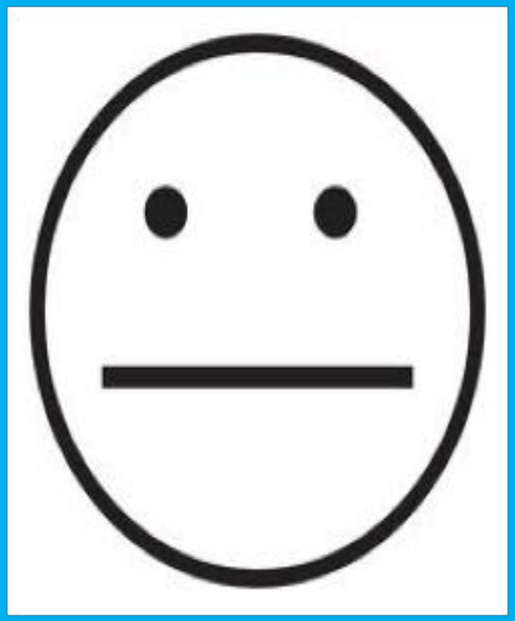
Echolalia (i.e., mimicking another's speech)

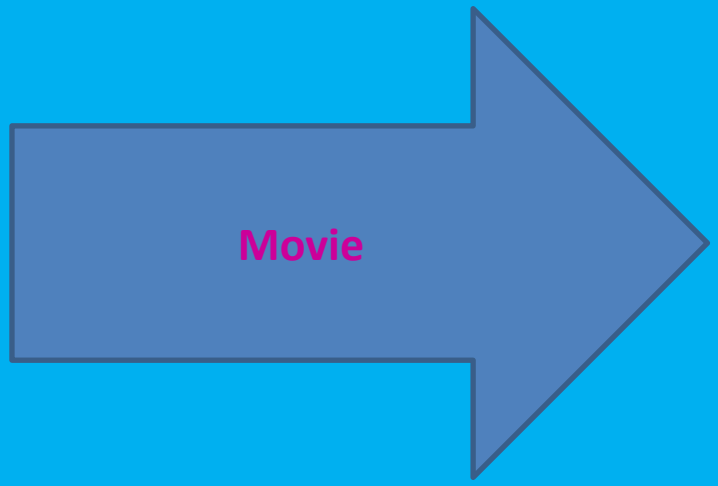
Echopraxia (i.e., mimicking another's movements)

Mood and Affect

Inappropriate affect

Blunting of affect/mood



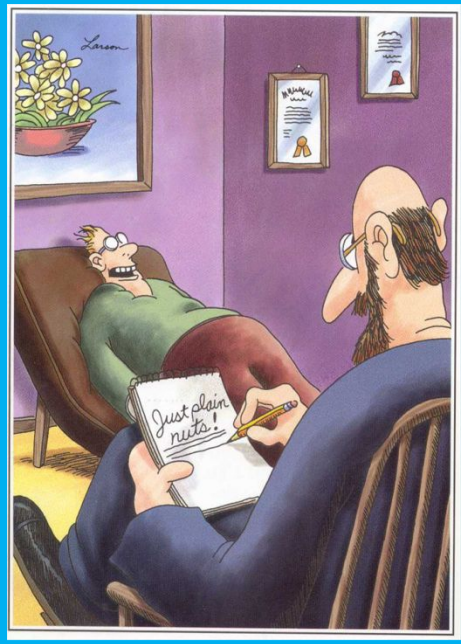

Movie

DDX

!Basis- primary versus secondary psychosis

DDX- Primary Psychosis

1. Schizophrenia, schizophreniform
2. Schizoaffective
3. Brief Psychotic disorder
4. Delusional disorder
5. Affective psychosis (depression, mania)



DDX- Secondary Psychosis

- Substance/ Medication- induced
- Psychosis secondary to another medical condition (neurological, endocrinological, metabolic, infectious)
- Delirium
- Dementia
- Not psychosis (personality disorder- cluster A/B, dissociation, culture- bound, PTSD, malingering, psedohallucinations of cluster B)

!Workup- Always Rule Out Secondary Cause

Good anamnesys

Thorough physical and neurological exam

:Lab and imaging

CBC
Complete chemistry
Thyroid functions
Vitamin B12 and folic acid
RPR, VDRL
ETOH
Urine and culture- especially in the elderly
Urine tox screen

CSF/LP
HIV serology
Autoimmune panel

CT or MRI
EEG

Secondary Psychotic Disorders

- Psychotic Disorder due to Another Medical Condition
- Substance Induced Psychotic Disorder
- Delirium
- Dementia

Psychotic Disorder due to Another Medical Condition

A. Prominent hallucinations or delusions
B. There is evidence from the history, physical examination, or laboratory findings that the disturbance is the direct physiological consequence of a general medical condition
C. The disturbance is not better accounted for by another mental disorder
D. The disturbance does not occur exclusively during the course of a delirium

Psychotic Disorder due to Another Medical Condition

- Neurological conditions (e.g., neoplasms, cerebrovascular disease, Huntington's disease, multiple sclerosis, epilepsy (TLE), auditory or visual nerve injury or impairment, migraine with aura, central nervous system infections- especially HIV)
- Endocrine conditions (e.g., hyper- and hypothyroidism, hyper- and hypoparathyroidism, hyper- and hypoadrenocorticism).
- Metabolic conditions (e.g., hypoxia, hypercarbia, hypoglycemia, uremia, hepatic encephalopathy, vitamines deficiency)
- Fluid or electrolyte imbalances, and autoimmune disorders with central nervous system involvement (e.g., systemic lupus erythematosus, Behcet)

Substance-induced psychotic disorder (SIMD)

- A. Prominent hallucinations or delusions.
- B. There is evidence from the history, physical examination, or laboratory findings of either (1) or (2):
  - (1) the symptoms in Criterion A developed during, or within a month of Substance Intoxication or Withdrawal
  - (2) substance use is etiologically related to the disturbance

- The diagnosis cannot be made if the symptoms occurred before the substance or medication was ingested, or are more severe than could be reasonably caused by the amount of substance involved.
- If the disorder persists for more than a month after the withdrawal of the substance, the diagnosis is less likely with the exception of methamphetamines.

Substances associated with inducing psychosis:

- Alcohol
- Cocaine
- Amphetamines
- Cannabis
- LSD, PCP
- NMDA, Ketamine
- Inhalants
- Opiods

Over the counter: Dextromethorphan, cold medications

Other: Steroids, Bupropion, Dostinex, antibiotics, antivirals, antimalarials

Treatment

- Stop the drug use
- Chemical dependence treatment if indicated
- Consider antipsychotics depending on how psychotic the patient is and how long the symptoms have been present

Delirium

of patients on general medical wards, S/P 15-25% surgery- even higher percentages

Advanced age, any brain disorder and underlying dementia are risk

yr mortality rate for those w/ episode of delirium= up 1 !to 50%

Recognizing and treating delirium is a medical urgency

Delirium

Perceptual disturbances are common; however, hallucinations :also are frequent

Hallucinations: 40% to 67%

Delusions: 25% to 50%

Psychotic symptoms are more commonly seen with hyperactive rather than hypoactive delirium

Visual > > auditory> other hallucinations

Paranoid delusions are the most common delusions

Clinical evaluation should help identify; dementia and delirium are often related

Etiologies

In general- delirium etiology =secondary !psychosis etiology

Intracranial Causes:
Seizures and Postictal states
Brain Trauma
Neoplasms
Infections
Vascular Disorders (Vasculitis, CVA's etc.)

Etiologies cont'd

Extracranial causes:

and Drugs/Medications- toxicity, intoxication, .w/d

Poisons (Carbon Monoxide, Heavy metals)

Endocrine dysfunction

Liver dz, Kidney failure, Cardiac failure, Arrhythmias, Hypotension, Hypoxia

Deficiency dz's

Etiologies cont'd

- Systemic Infections
- Electrolyte abnormalities
- Postoperative states
- Trauma

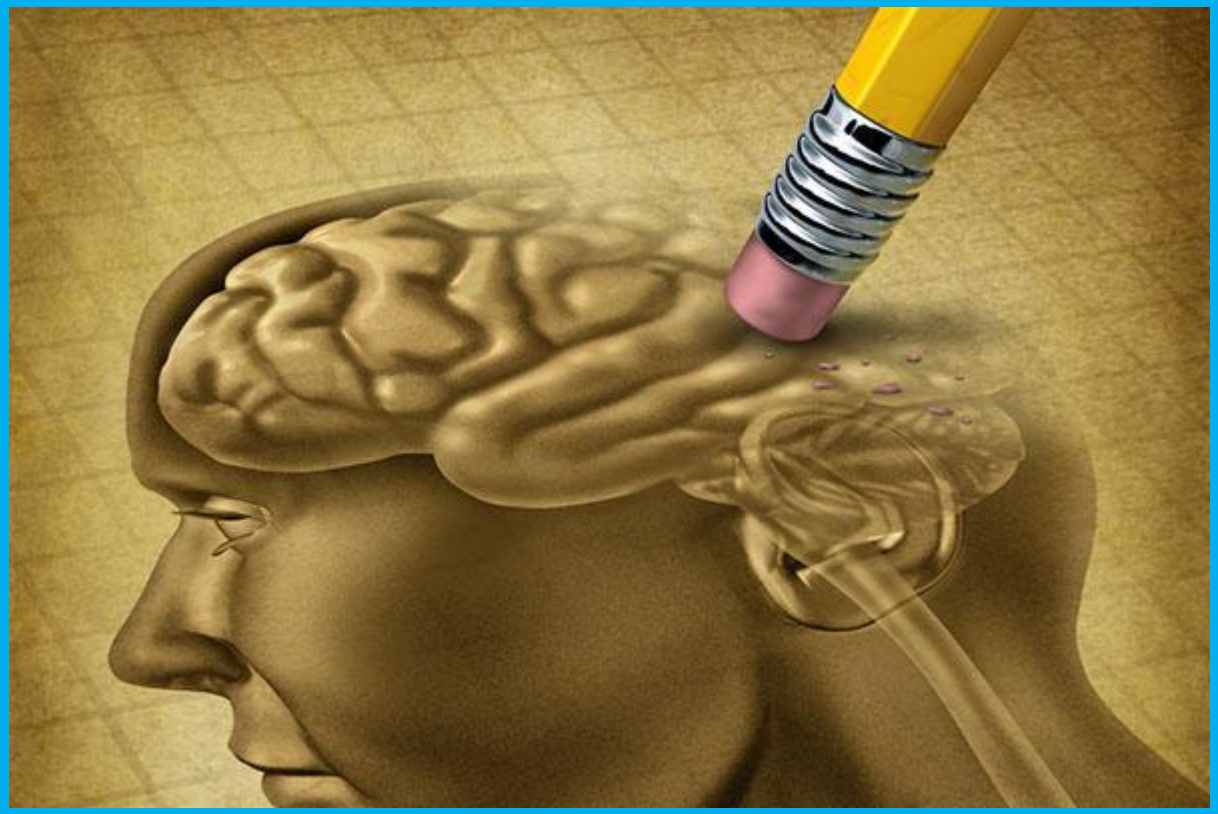
Treatment of Delirium

High Potency Antipsychotic+ antihistamine

Supportive Care

Find and Resolve Causative Factor(s)

Dementia as the Cause of Psychosis



DSM-IV criteria for the diagnosis of Dementia of the Alzheimer's Type

:A. The development of multiple cognitive deficits manifested by both

Memory impairment (impaired ability to learn new information or to recall previously learned information).1

:One or more of the following cognitive disturbances.2

aphasia (language disturbance) (a)

apraxia (impaired ability to carry out motor activities depite intact motor function) (b)

agnosia (failure to recognize or identify objects despite intact sensory function) (c)

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

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

.C. The course is characterized by gradual onset and continuing cognitive decline

:D. The cognitive deficits in Criteria A1 and A2 are not due to any of the following
other central nervous system conditions that cause progressive deficits in memory and cognition (1) (e.g., cerebrovascular disease, Parkinson's disease, Huntington's disease, subdural hematoma, normal-pressure hydrocephalus, brain tumor)
systemic conditions that are known to cause dementia (e.g., hypothyroidism, vitamin B or folic acid deficiency, (2) niacin deficiency, hypercalcemia, neurosyphilis, HIV infection)
substance-induced conditions (3)

.E. The deficits do not occur exclusively during the course of a delirium

Alzheimer's Disease

Prevalence of psychotic symptoms: 16% to 70%; Median: 37% for delusions; 4% to 76% (Median 23%) for hallucinations

Rates of psychoses: about 20% in early stages to 50% by third or fourth years of illness (Overall: 30% to 50%)

.Most common in middle stages
Hallucinations: visual> auditory> other

Hallucinations most commonly people from past, e.g., deceased relatives, intruders, animals, objects

Delusions: most common are false beliefs of theft, infidelity of one's spouse, abandonment, house not one's home, and persecution. Decreases in later stages

Different from *misidentification syndromes* which may be more cognitively- related: Mirror Capgras Syndrome (imposters), Phantom Boarder Syndrome(guest in house); Sign (mistakes self in mirror for someone else, TV or Magazine Sign (believes people on TV or in magazine are real)

Some evidence that psychotic symptoms are associated with a more rapid decline

Need to rule out underlying medical problems and visual difficulties

Vascular Dementia

Cache County study found prevalence of hallucinations similar between AD and VaD, but delusions were higher in AD (23% vs 8%)

Lewy Body Dementia

About half have visual hallucinations (up to 80% in some studies), and it's an early sign in
43%

Usually frightening people or animals

Auditory hallucinations (20%) and paranoid delusions(65%) are also common

Some texts say psychotic symptoms are more common than in AD

!Avoid typical neuropeptics- severe EPS! Only low- dose atypicals

Parkinson's disease

Overall rates: 20 to 60% --- about ¼ have hallucinations in PD, but ¾ have hallucinations with Parkinson's Disease with Dementia (PDD). Thus, psychosis is more common in later stages of PD

Hallucinations much more common than delusions

Extrinsic causes > Intrinsic causes, i.e., hallucinations in PD most commonly secondary to dopaminergic agents (extrinsic). Need to assess onset of symptoms.
.Medications produce vivid visual hallucinations

Test Yourself

Symptoms of secondary psychoses :accompany which disorder

1. Delusional disorder
2. Schizophrenia
3. Depression
4. Alzheimer’s disease

In delirium, what is the most common ?form of hallucinations

Auditory .1

Tactile .2

Visual .3

Olfactory .4

In Alzheimer's disease which of the : following is true

1. Auditory hallucinations are the most common type of hallucination
2. Psychoses are most common in the early stages of the disorder
3. Delusions concerning theft are common
4. Misidentification syndromes are a type of delusion

In Parkinson's disease which of the :following is true

1. Extrinsic causes of hallucinations are greater than intrinsic causes
2. Rates of hallucinations are about 10%
3. The preferred treatment for hallucinations is risperidone
4. Rates of hallucinations are similar among those persons with and without dementia

!Thank You