Gerald - A Case study in schizophrenia

Gerald was a young man in the seventies in Texas. In his early twenties, he was studying at the police academy to become a police officer.

Look for:

- Thought broadcasting
- Delusions
- Paranoia
- Hearing voices
- Seeing visions
- Concrete, non-abstract language
- Delusions of grandeur
Schizoaffective Disorder

• combination of schizophrenia symptoms (hallucinations or delusions) and mood disorder symptoms (such as mania or depression.)

• Controversial

• Requires presence of delusions for 2 weeks in the absence of mood symptoms
Schizoaffective Disorder
Diagnosis of schizophrenia

- Two or more of the following, each present for a significant portion of time in a 1 month period
  - delusions
  - hallucinations
  - Disorganized speech
  - Grossly disorganized or catatonic behavior
  - Negative symptoms
<table>
<thead>
<tr>
<th>Subtype</th>
<th>Description</th>
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<tbody>
<tr>
<td>Paranoid</td>
<td>Dominated by delusions (persecution and grandeur) and hallucinations (hearing voices)</td>
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<tr>
<td>Catatonic</td>
<td>Marked by motor disturbances (immobility or wild activity) and echo speech (repeating the speech of others)</td>
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<tr>
<td>Disorganized</td>
<td>Characterized by incoherent speech, flat or exaggerated emotions, and social withdrawal</td>
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<tr>
<td>Undifferentiated</td>
<td>Meets the criteria for schizophrenia but is not any of the above subtypes</td>
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<tr>
<td>Residual</td>
<td>No longer meets the full criteria for schizophrenia but still shows some symptoms</td>
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Psychotic Disorders

- Person loses contact with reality, experiences distorted perceptions

DSM – IV - Two Major Classifications:
Antipsychotic Drugs

1st Generation / Classical antipsychotics (Thorazine) Removes a number of positive symptoms associated with schizophrenia such as agitation, delusions, and hallucinations.

- Dampens responsiveness to irrelevant stimuli
- Provides help to those with positive symptoms
- May worsen negative symptoms
- Can produce sluggishness, tremors and twitches.
Antipsychotic Drugs

New generation / Atypical antipsychotics

Can remove negative symptoms associated with schizophrenia such as apathy, jumbled thoughts, concentration difficulties, and difficulties in interacting with others.

-Clozapine may help those with positive symptoms as well
-Also blocks serotonin
-Has fewer side-effects than thorazine
-Increases the risk of obesity and diabetes
-**Risperdal** - Can lead to tardive dyskinesia - a neurotoxic effect which involves involuntary movement of facial muscles, tongue and limbs.
Tardive Dyskinesia
Antipsychotic – how they work

Clozapine (Clozaril) blocks receptors for dopamine and serotonin to remove the negative symptoms of schizophrenia.

There is a potential for overdose with drugs used to treat schizophrenia.
Alternative treatments
Understanding Schizophrenia

Biological Theories

Biochemical Key?

“Mad as a hatter”
LSD

Dopamine Hypothesis: Researchers found that schizophrenic patients express higher levels of dopamine receptors in the brain.

Dopamine-blocking drugs are somewhat successful, but not with negative symptoms.
Neurotransmitter Abnormalities

• Include serotonin, glutamate, and dopamine.
• Many schizophrenics have high levels of brain activity in brain areas served by dopamine as well as greater numbers of particular dopamine receptors.
• Similar neurotransmitter abnormalities are also found in depression and alcoholism.
Abnormal Brain Activity

Brain scans show abnormal activity in the **frontal cortex, thalamus, and amygdala** of schizophrenic patients. Adolescent schizophrenic patients also have brain lesions.

Paul Thompson and Arthur W. Toga, UCLA Laboratory of Neuro Imaging and Judith L. Rapport, National Institute of Mental Health
Adolescent Abnormalities in Brain Development

- Normal pruning of excessive synapses in the brain occurs during adolescence.
- In schizophrenics, a greater number of synapses are pruned away.
  - May explain why first episode occurs in adolescence or early adulthood.