First Episode Psychosis

Project ECHO Billings Clinic

Pediatric Mental Health

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Psychotic Symptoms

- Schizophrenia
- Bipolar disorder
- MDD with psychotic features
- In schizophrenia or bipolar disorder, FEP occurs 15-30yo
- FEP typically preceded by subtle pre-morbid signs in childhood and subsyndromal prodromal symptoms

Epidemiology

- New cases of psychosis: 50 per 100,000 people per year
- New cases of schizophrenia: 15 per 100,000 people per year
- Peak age of onset:
  - Teens to mid-20's for M
  - Teens to late 20's for F
- 18% of schizophrenia occurs before 18yo, tends to have poor outcome
- Psychosis in childhood is rare: 1 in 10,000 and more common in M

Pathogenesis

- Studies in FEP and prodrome: reductions in multiple brain regions, including prefrontal, superior, and medial temporal gray matter volumes
- Schizophrenia is a neurodevelopmental disorder that most likely begins to develop in utero
  - Pre- or perinatal neurodevelopmental abnormalities may lead to vulnerability to postpubertal insults that contribute to accelerated loss of gray matter and aberrant connectivity in prefrontal regions of vulnerable individuals

Pathogenesis

- Epigenetic factors may contribute to a later neurodegenerative process: substance use, stress, maternal infection
  - Environmental influences in late adolescence that contribute to emergence of FEP: increase HPA axis activity (stress), neuroinflammation, NMDA receptor hypofunction, glutamatergic or dopaminergic transmission abnormalities, reduced neuroplasticity
- It is thought that neuroplasticity in early psychosis could offer a window of opportunity to alter the course of illness

Clinical Signs

- Psychosis, including hallucinations, delusions, thought disorganization, agitation, and aggression
- Neurocognitive impairment can be seen even before the onset of psychotic illness
  - Memory problems
  - Poor attention and focus
  - Slowed processing speed
  - Impaired executive functioning

Clinical Signs

- Depression and suicide
  - Depression, dysphoria, anhedonia, amotivation, sleep problems, suicidal thoughts can be presenting symptoms in prodrome or FEP
  - These presenting symptoms can point to especially poor outcomes
  - Differentiate these symptoms from negative symptoms, or EPS and dysphoria from antipsychotic medications
  - High suicide risk at onset of schizophrenia
    - Lifetime risk of schizophrenia is 5%

Clinical Signs

- Suicide risk factors: young, male, highly educated, prior attempts, depressive sx, active hallucinations and delusions, FH of suicide, comorbid substance use, insight
- Functional impairment occurs even before onset of psychotic symptoms
  - Functional impairment during the prodrome is a predictor of who goes on to develop a full psychotic episode
  - FEP programs target the significant functional impairment early in the course of illness

Clinical Signs

- Prior to receiving treatment, patients with FEP are 4x more likely to commit acts of violence compared to the general population
- Metabolic problems have been reported in medication-naïve patients with FEP, suggesting that chronic psychotic disorders may be systemic diseases in which metabolic abnormalities are intertwined with psychopathological features

Clinical Course

- Prodrome can last a few weeks up to a few years
  - Subsyndromal psychotic symptoms, negative symptoms, deterioration in functioning
  - “Attenuated psychosis syndrome” is the DSM-5 characterization of the prodromal phase
- Eventual diagnosis of high-risk individuals based on a study of 89 subjects:
  - 56% develop a schizophrenia spectrum psychosis
  - 10% develop an affective psychosis
  - 34% develop psychosis NOS

Clinical Course

- Higher rate of co-morbid SUDs compared to the general population
  - 50% develop any lifetime SUD
  - 34.7% have a cannabis use disorder vs. 11% in general population
- There is an association between cannabis use and increase risk of developing psychotic symptoms
- 80% of patients in a phase of FEP have co-morbid depression
- 63% have a combination of depression and suicidal thinking

Diagnostic Evaluation

- Start by establishing a timeline of symptoms, family history, developmental history, medical history
- Mental status examination
- Medical work-up
  - Physical and neuro exam
  - CBC (infection), electrolytes (metabolic probs), renal panel, liver panel, TSH, glucose, calcium and phosphate, urinalysis and drug screen
  - HIV test, syphilis screen (VDRL, RPR), hepatitis panel, copper studies, serum folate / B12, urine porphyrins, serum cortisol, ANA, sedimentation rate, heavy metal screen, anti-NMDA receptor antibodies

Diagnostic Evaluation

- Medical work-up (cont'd)
  - CT or MRI to look for space-occupying lesions, demyelinating disorders, stroke
  - EEG to r/o seizure d/o
  - Neuropsych testing to establish a baseline of functioning
  - Lumbar puncture to r/o meningitis or other infection

Goals for Treatment

- Assure safety, improve symptoms, promote functional recovery
- Monitor family expressed affect
- Early identification is critical to alter the trajectory
  - Historically, there have been multi-year lags between development of psychosis and the accurate diagnosis of a psychotic disorder
- Components of early identification and intervention programs:
  - Education and community outreach
  - Encourage referral to specialty program
  - Multidisciplinary teams that work in an integrated approach

Goals for Treatment

- Components (cont'd)
  - Deliver diagnosis-specific, multimodal treatments, including psychosocial supports and medications
  - Focus on functional recovery and decrease psychotic symptoms
  - Psychological assessments that focus on identifying strengths and resiliency factors
    - Support empowerment, collaborative decision-making, self-determination, choice, and person-centered recovery planning
- Early intervention services leads to better clinical outcomes for patients with FEP
  - Fewer hospitalizations, better vocational engagement