PSYCHOSIS in PREGNANCY

FLAME LECTURE: 41

TOOHEY / BURNS 8.8.15

Learning Objectives

- Describe how certain medical conditions affect pregnancy
- Describe how pregnancy affects certain medical conditions
- Recognize appropriate treatment options for mood disorders during pregnancy
- Prerequisites:
  - NONE
- See also – for closely related topics
  - FLAME LECTURE 40 – Anxiety in Pregnancy
  - FLAME LECTURE 134 – Postpartum Depression
  - FLAME LECTURE 135 – Postpartum Psychosis

Introduction

- Psychosis is characterized by the presence of perceptual disturbances (hallucinations), delusional thinking, or disordered thought
- Differential Diagnosis:
  - Schizophrenia
  - Mood disorder with psychotic features
  - Substance or medication use
  - Underlying medical condition (encephalitis, endocrinopathy, porphyria)

Introduction

- Schizophrenia affects ~1% of people in their lifetime
  - In women, the first episode often occurs during child-bearing years (average age is ~30 years)
- Approximately 50-60% of women suffering from schizophrenia will become pregnant, with most of these pregnancies being unplanned
- Research on how the presence of schizophrenia affects a pregnancy is still limited but it has become evident that:
  - Pregnancy and the post-partum period can worsen schizophrenia symptoms
  - Schizophrenia is associated with certain pregnancy complications (see later)
  - Patients should be maintained on neuroleptic medications during their pregnancies, with typical antipsychotics (e.g. haloperidol being preferred)

Schizophrenia & Psychosis

- Schizophrenia is defined as:
  - **2 or more of the following**
    - Delusions
    - Hallucinations
    - Disorganized speech
    - Disorganized or catatonic behavior
    - Negative symptoms (anhedonia, flat affect, alogia, apathy, poor attention)
  - With significant **functional deterioration**
  - Symptoms not due to medical, neurological or substance-induced causes
  - Schizophrenia is defined as lasting >6 months
    - Schizophreniform is similar but lasting 1-6 months
    - Brief psychotic episode is similar but lasting <1 month

Risk Factors[2]

- Genetic risk:
  - 50% concordance amongst MZ twins
  - 40% risk if both parents affected
  - 12% risk if 1st degree relative affected

A pregnant woman who suffers from schizophrenia is at risk for having offspring with schizophrenia because both genetic disposition and poor prenatal care can both increase environmental risk factors during her pregnancy

- Developmental risk: Perinatal complications or maternal illness can cause increased risk for schizophrenia development
  - Perinatal complications include hemorrhage, fetal hypoxia, pre-term labor
  - Maternal illness:
    - Infants born of **mothers who suffered from influenza** during pregnancy (especially during 2nd/3rd trimester) are at 4x increased risk for developing schizophrenia
    - Higher incidence of schizophrenia in infants born during the winter/spring
    - Positive correlation of maternal IgG against ***toxoplasma gondii***
- First and second generation immigrants are at up to 4x increased risk for developing schizophrenia
- Drug use:
  - Cannabis use is considered a risk factor for development of psychosis, especially in people who are genetically predisposed

Clinical Consequences

Consequences on maternal health:

- Women with schizophrenia often present with co-morbid medical conditions that can put that an increased risk for complications during pregnancy
  - These include diabetes, hypertension, and venous thromboembolism
  - They also have higher rates of substance abuse

Clinical Consequences

Consequences on pregnancy:

- Higher risk for requiring intervention in mode of delivery (labor induction, c-section)
- Maternal self-mutilation
- Denial of pregnancy/absence of prenatal care
- Infanticide

Consequences on fetal/neonatal health:

- Preterm delivery
- Low birth weight infants
- Placental abnormalities and antenatal hemorrhage
- Congenital Malformations (especially cardiovascular)
- Higher incidence of postnatal death

Treatment

- Physicians often hesitate to prescribe or continue psychiatric medications during pregnancy because of unknown effects of the medication on fetal development
- But stopping or avoiding treatment itself poses serious risk! As detailed earlier, schizophrenia can have a severe impact on both the mother and baby. Thus maintaining a patient on neuroleptic medications is highly advised
- Typical antipsychotics are particularly recommended[3]
  - Many typical antipsychotics were actually first developed to treat severe nausea during pregnancy
    - Note: Haloperidol still occasionally used in the treatment of hyperemesis gravidarum
  - Quetiapine is gaining popularity due to side effect profile
- Physiologic changes during pregnancy can affect pharmacology:
  - 50% increase in blood volume by 24-26 weeks
  - Glomerular filtration rate increases by 50% in the second trimester
  - Therefore, adjustments in doses of medications during pregnancy are often necessary

Treatment – *Typical Antipsychotics*

- No teratogenic effects or birth complications found with chlorpromazine, haloperidol, perphanzine
- Aliphatic phenothiazines have higher risk for major congenital anomalies but piperazine phenothiazines have limited teratogenic effects (perphanzine, trifluoperazine)
- Fetal/neonatal toxicity: neuroleptic malignant syndrome, dyskinesia, extrapyramidal side effects, neonatal jaundice, postnatal intestinal obstruction
  - Thus important to keep medication doses low during pregnancy to decrease risk of side effects on mother or baby

Chlorpromazine	*Thorazine*
Fluphenazine	*Prolixin*
Haloperidol	*Haldol*
Loxapine	*Loxitane*
Perphanzine	*Trilafon*
Pimozide	*Orap*
Thioridazine	*Mellaril*
Thiothixene	*Navane*
Trifluoperazine	*Stelazine*

BONUS: Drugs used to treat **Extrapyramidal symptoms**:
Diphenhydramine: conflicting data suggests may ↑ risk for oral clefts
Benztropine: Category C, minimal studies on teratogenicity
Amantadine: Category C, minimal studies on teratogenicity

Treatment – *Atypical Antipsychotics*

- Limited data on safety during pregnancy
- One study showed higher rate of low birth weight with use of atypical antipsychotics
- **Not recommended**, however if patient is already on an atypical antipsychotic and then gets pregnant, it is often better to stay with current tx than to expose fetus to another medication by switching to a typical

Ariprazole	*Abilify*
Clozapine	*Clozaril*
Olanzapine	*Zyprexa*
Quetiapine	*Seroquel*
Risperidone	*Risperdal*
Ziprasidone	*Geodon*

Treatment – *medications*[2]

Antipsychotic Medications			
Generic Name	Brand Name	Pregnancy Risk Category	Lactation Risk Category
Typical Antipsychotics			
Chlorpromazine	Thorazine	C	L3
Fluphenazine	Prolixin	C	L3
Haloperidol	Haldol	C	L2
Loxapine	Loxitane	C	L4
Perphenazine	Trilafon	C	N/A
Pimozide	Orap	C	L4
Thioridazine	Mellaril	C	L4
Thiothixene	Navane	C	L4
Trifluoperazine	Stelazine	C	N/A
Atypical Antipsychotics			
Aripiprazole	Abilify	C	L3
Clozapine	Clozaril	B	L3
Olanzapine	Zyprexa	C	L2
Quetiapine	Seroquel	C	L4
Risperidone	Risperdal	C	L3
Ziprasidone	Geodon	C	L4

IMPORTANT LINKS / REFERENCES

- ACOG Practice Bulletin 92, April 2008 ("Use of Psychiatric Medications during Pregnancy and Lactation")

1. UpToDate.com
2. IPAP Guidelines for the treatment of schizophrenia during pregnancy and the postpartum period. (IPAP Schizophrenia Algorithm Project. International Psychopharmacology Algorithm Project, 2004)
3. Vigod et al *BJOG* (2014) "Maternal and newborn outcomes among women with schizophrenia: a retrospective population-based cohort study