Psychiatric Emergencies in Pregnant Women

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INTRODUCTION

Mental health-related visits to emergency departments (EDs) are common. From 1992 to 2001, approximately 53 million ED visits in the United States involved a behavioral health emergency. In 2011, approximately 3.9% of visits involved a discharge diagnosis of “mental disorder,” although it is unknown how many of these visits solely involved pregnant patients.

Although there are increasing numbers of visits to EDs in the United States, clinical research in the field of emergency medicine remains scarce. This gap is especially true

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of research in mental illness in pregnancy, even though pregnancy and the postpartum period have traditionally been thought to be times of increased vulnerability for psychiatric disorders. Despite this, there are few randomized trials in pregnancy. Although community-based studies comparing rates of mental illness in pregnant and nonpregnant females have actually found lower rates of mental illness in pregnant females compared with nonpregnant females, rates of illness, particularly depression, still remain high in this population. Thus, it is likely that emergency physicians will encounter pregnant patients suffering from psychiatric complaints. Despite the lack of clear guidelines, emergency physicians nonetheless play a key role in the treatment of these patients, because failure to diagnose or failure to treat appropriately may lead to serious adverse maternal and fetal outcomes.

MEDICAL SCREENING OF PSYCHIATRIC ILLNESS IN PREGNANCY

The first step in the evaluation of pregnant patients with behavioral disorders in the ED is medical screening to detect medical problems that may be contributory to the ED presentation (Wilson MP, Nordstrom K, Anderson EL, et al. American Association for Emergency Psychiatry Task Force: review and consensus statement on medical assessment of adult psychiatric patients presenting acutely to United States emergency departments. Part II: controversies over medical assessment, and consensus recommendations [indicates reviews of existing literature]. Submitted for publication). This process is commonly termed “medical clearance,” and is covered more thoroughly elsewhere in this issue.

Defining an Adequate Medical Examination

Several studies have investigated the important elements of emergency medical examinations for psychiatric patients, although no study has specifically evaluated key elements of emergency medical examinations in pregnant patients. There is general consensus that abnormal vital signs are an important first clue to the presence of medical illness. Unfortunately, vital signs outside the normal range can be somewhat misleading in pregnancy. Heart rate, for instance, often increases in pregnant females to compensate for decreasing systemic vascular resistance. Systolic blood pressures also typically decrease in pregnancy, reaching their lowest values around 24 weeks of gestation. Fever, however, may be more useful. Although mild hyperthermia may be common in pregnancy, fever defined as 100.4°F or greater, is more concerning for a medical illness.

Assessment of mental status has also been suggested as an important component of screening patients with psychiatric complaints. Given difficulties in using vital signs, mental status screening may potentially be more important in pregnant, behaviorally disordered patients. Case reports exist in which mental status changes, such as disorientation, were misdiagnosed as new-onset psychosis during a prolonged hospital course for hyperemesis gravidarum. New-onset psychosis is relatively uncommon in pregnancy, but may be seen in rare but life-threatening diseases such as Wernicke’s encephalopathy. Although often thought of as a disease of alcohol-using patients, Wernicke’s encephalopathy may sometimes be associated with hyperemesis gravidarum. Because frank disorientation is relatively uncommon in psychiatric disease, patients with mental status alterations like that of Wernicke’s encephalopathy are more likely to have a medical etiology for their symptoms. Although a prospective, randomized trial of the addition of mental status screenings to comprehensive physical examinations has never been performed, studies such as these highlight the importance of a mental status examination in
medical screening of psychiatric patients. Expert guidelines, such as those by the American Association for Emergency Psychiatry, also recommend consideration of mental status screening in all patients presenting with psychiatric complaints (Wilson MP, Nordstrom K, Anderson EL, et al. American Association for Emergency Psychiatry Task Force: review and consensus statement on medical assessment of adult psychiatric patients presenting acutely to United States Emergency Departments. Part II: controversies over medical assessment, and consensus recommendations [indicates reviews of existing literature]. Submitted for publication).

The Role of Routine Laboratory and Drug Screen Testing

The role of routine laboratory testing in patients with isolated psychiatric complaints has been controversial in the ED literature. Although early studies such as those by Hall and colleagues have indicated prevalence of medical disease approaching 46% in psychiatric patients, more modern studies have indicated that routine laboratory studies generally add little to the workup, especially if the patient is young with isolated psychiatric complaints. None of these studies, however, specifically investigated special populations, such as those with new-onset psychiatric illness or patients with pregnancy and, depending on the clinical presentation, more extensive testing may be of greater utility in these populations.

At least 1 study that investigated new-onset psychiatric symptoms found a high proportion of medical illness. Henneman and colleagues investigated 100 consecutive patients aged 16 to 65 years who presented to the ED with new-onset psychiatric complaints and no known past psychiatric history. In this cohort, 63 patients were found to have coexisting medical illness, with history/physical examination alone suggesting disease in only 27 of these 63 patients. The authors concluded subsequently that most adult patients with new-onset psychiatric symptoms have a causative medical illness, and recommended extensive evaluation.

The utility of routine urine drug screens have also been called into question in the ED setting. Studies such as that by Schuckman and colleagues have indicated that self-reporting of illicit drug use is unreliable in the ED; however, several ED studies have indicated that knowledge of a patient’s substance use does not often change ED diagnosis or disposition of psychiatric patients. Based on studies of this type, the American College of Emergency Physicians stated that routine testing for urine drugs of abuse was unnecessary in the ED. However, this guideline did not concern pregnant patients specifically. In this population, substance use may be important to detect early, because it may have deleterious effects on the fetus and offers an earlier opportunity for counseling and intervention. For this reason, the American College of Obstetrics and Gynecology recommends routinely screening for substance use during prenatal visits. However, the American College of Obstetrics and Gynecology makes no recommendation for ED screening, and does not specifically recommend urine drug screens over screening tools or simply asking the patient about substance use.

AGITATION IN PREGNANCY

An Emergency Nurse Association survey indicated that 54.5% of ED nurses have been physically or verbally abused in the past 7 days. Many of these abuses come from agitated patients. Although most practitioners define agitation as “knowing it when they see it,” agitation is more properly defined as an “extreme form of arousal that is associated with increased verbal and motor activity.” However, agitation in EDs is surprisingly common, with as many as 1.7 million episodes of agitation annually in
EDs in the United States. Most ED care has focused on treatment using restraints and sedation, usually with intramuscular preparations. Although recent literature has criticized this approach as both inhumane and wasteful of ED resources, this approach may be particularly inappropriate for pregnant patients.

Although haloperidol was used in the treatment of hyperemesis gravidarum in earlier decades, there are no well-controlled studies that confirm safety of any antipsychotic or benzodiazepine in pregnancy. Evidence for the safety of antipsychotics other than haloperidol are inconclusive, but depending on medication type, may be associated with increased gestational weight, gestational diabetes, and increased risk of preterm birth. However, because there is no evidence to judge safety in a 1-time dose, as is typically given in the ED, administration guidelines are extrapolated from larger studies of fetal safety.

Benzodiazepines in particular are thought to produce fetal harm, although there is uncertainty about the exact teratogenic effects and the association with ED dosing. The risk of oral cleft in the general population is 6 in 10,000 births, and fetal exposure to benzodiazepines elevates the risk to 7 to 11 in 10,000 births, although these results may be subject to recall bias and confounding factors. Diphenhydramine, which has no proven risk to humans in pregnancy, can be used for its sedative effect, but may be associated with anticholinergic side effects.

Table 1 describes package inserts regarding risks in pregnancy of common ED medications.

Newer literature has called for initial approaches to psychiatric patients using a bundle of measures, not unlike a “resuscitation bundle” in critical care. In this approach, agitated patients are treated initially with verbal deescalation. Although emergency clinicians often perceive themselves as too busy for effective verbal deescalation, thus opting for early use of medication instead, there is some indirect evidence that these techniques may work in nonpregnant patients. In a 2010 study, Isbister and colleagues studied the use of droperidol versus midazolam in Australian EDs, with study investigators being required to attempt verbal deescalation before administering medications. As a result, 60 of 223 security calls (26.9%) were lost to the study after being calmed to the point of no longer needing medication.

Although there are no agreed-upon scripts for verbal deescalation, recent expert guidelines suggest some useful strategies. Table 2 provides some verbal deescalation strategies. Using these principles, some experts believe that verbal deescalation can often be accomplished in only a few minutes and may allow for the avoidance of medications. This strategy is of particular benefit in pregnant patients, because many medications have contraindications or risks.

Of note, care should be taken while using mechanical restraints in pregnant women, especially during the second and third semesters, to avoid undue pressure on the uterus. Monitoring, to include fetal heart tones and movement, should be done frequently.

Although there are no specific data to guide treatment of agitation in pregnant patients, the following algorithm can be suggested:

- Verbal deescalation as a first-line treatment.
- A comprehensive medical examination to identify the most likely cause of the patient’s agitation (ie, medical cause vs recurrence of psychiatric disease).
- Treatment of most likely cause of the agitation.
  - If medications cannot be avoided, use the lowest dose possible of a medication that the patient has taken before, unless this medication is a known teratogen.
<table>
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<tr>
<th>Drug Name</th>
<th>Package Insert [dailymed.nlm.nih]</th>
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<tr>
<td>Alprazolam</td>
<td>“Benzodiazepines can potentially cause fetal harm when administered to pregnant women. If alprazolam tablets are used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be apprised of the potential hazard to the fetus...Because use of these drugs is rarely a matter of urgency, their use during the first trimester should almost always be avoided.”</td>
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<tr>
<td>Carbamazepine</td>
<td>“Carbamazepine can cause fetal harm when administered to a pregnant woman.”</td>
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<td>Diphenhydramine</td>
<td>“Research studies with animals haven’t found a risk to unborn babies, but it hasn’t been properly studied in humans.”</td>
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<td>Droperidol</td>
<td>“INAPSINE administered intravenously has been shown to cause a slight increase in mortality of the newborn rat at 4.4 times the upper human dose....There are no adequate and well-controlled studies in pregnant women. INAPSINE should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.”</td>
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<td>Haloperidol</td>
<td>“There are no well-controlled studies with haloperidol in pregnant women. There are reports, however, of cases of limb malformations observed following maternal use of haloperidol along with other drugs which have suspected teratogenic potential during the first trimester of pregnancy. Causal relationships were not established in these cases. Since such experience does not exclude the possibility of fetal damage due to haloperidol, this drug should be used during pregnancy or in women likely to become pregnant only if the benefit clearly justifies a potential risk to the fetus.”</td>
</tr>
<tr>
<td>Lithium</td>
<td>“In humans, lithium carbonate may cause fetal harm when administered to a pregnant woman. Data from lithium birth registries suggest an increase in cardiac and other anomalies, especially Ebstein’s anomaly.”</td>
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<tr>
<td>Lorazepam</td>
<td>“LORAZEPAM MAY CAUSE FETAL DAMAGE WHEN ADMINISTERED TO PREGNANT WOMEN. Ordinarily, lorazepam injection should not be used during pregnancy except in serious or life-threatening conditions where safer drugs cannot be used or are ineffective.”</td>
</tr>
<tr>
<td>Olanzapine</td>
<td>“This drug should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.”</td>
</tr>
<tr>
<td>Risperidone</td>
<td>“Adequate and well controlled studies with risperidone have not been conducted in pregnant women. Neonates exposed to antipsychotic drugs (including risperidone) during the third trimester of pregnancy are at risk for extrapyramidal and/or withdrawal symptoms following delivery...Risperidone should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.”</td>
</tr>
<tr>
<td>Valproic acid</td>
<td>“VALPROATE CAN PRODUCE TERATOGENIC EFFECTS. DATA SUGGEST THAT THERE IS AN INCREASED INCIDENCE OF CONGENITAL MALFORMATIONS ASSOCIATED WITH THE USE OF VALPROATE BY WOMEN WITH SEIZURE DISORDERS DURING PREGNANCY WHEN COMPARED TO THE INCIDENCE IN WOMEN WITH SEIZURE DISORDERS WHO DO NOT USE ANTIEPILEPTIC DRUGS DURING PREGNANCY.”</td>
</tr>
<tr>
<td>Ziprasidone</td>
<td>“There are no adequate and well-controlled studies in pregnant women. Ziprasidone should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.”</td>
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The incidence and prevalence of anxiety disorders in pregnancy is largely unknown, although some disorders are thought to be exacerbated by pregnancy. Anxiety symptoms in the pregnant female can be a serious concern for the mother and the fetus. For the mother, heightened anxiety can cause significant physical as well as emotional distress. Emergent conditions, such as abruption and preterm labor, have also been associated with anxiety in the mother, with up to a 4-fold increase of preterm labor in women with posttraumatic stress disorder and a major depressive episode after controlling for medications. Lower Apgar score and birthweight is also a known consequence of severe anxiety.

Obsessive–compulsive disorder is known to worsen with pregnancy and during the antepartum period. When exacerbated, obsessive–compulsive disorder can seem to be very similar to acute psychosis. If symptoms are severe, especially if the symptoms seem to be harming the mother or fetus, hospitalization may be required.

The ED management of patients with severe anxiety is similar to that of agitation. Benzodiazepines, which are first-line medications for anxiety, have known harmful effects on the fetus. Diphenhydramine, although not potentially harmful, may cause anticholinergic side effects and would accomplish little more than sedation. If anxiety is severe, the use of benzodiazepines is determined after considering the risks and benefits of their short-term use. If benzodiazepines are used, the risks and benefits, as well as alternatives must to be clearly discussed with the patient and documented in the chart. If anxiety is moderate, instructing the patient on quick relaxation techniques, such as deep, diaphragmatic breathing might be helpful. Patients who present to the ED with anxiety should be screened for a co-occurring mood disorder, because these patients are at a greater risk for depression as well as suicide.

Mood Disorders During Pregnancy

The average age of onset for most mood disorders tends to coincide with peak child-bearing years. Rates of major depressive disorder are higher in females, and perhaps highest in childbearing years, although at least 1 study has found lower rates of depression in pregnant compared with nonpregnant females.

Depression may be underdiagnosed in pregnancy, partly owing to overlapping symptoms such as low energy, sleep pattern changes, and alterations in appetite. Unfortunately, a mild depressive episode can rapidly become more severe, leading to decreased functioning for the patient. Studies have repeatedly shown that patients will have some form of contact with a medical provider in the weeks

<table>
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<th>Table 2</th>
<th>Useful verbal strategies in verbal deescalation</th>
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<tr>
<td>Suggested Conversational Prompt</td>
<td>Strategy</td>
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<tr>
<td>“What helps you at times like this?”</td>
<td>Invite the patient’s ideas</td>
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<tr>
<td>“I think you would benefit from medication.”</td>
<td>Stating a fact</td>
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<tr>
<td>“I really think you need a little medicine.”</td>
<td>Persuading</td>
</tr>
<tr>
<td>“You’re in a terrible crisis. Nothing’s working. I’m going to get you some emergency medication. It works well and it’s safe. If you have any serious concerns, let me know.”</td>
<td>Inducing</td>
</tr>
<tr>
<td>“I’m going to have to insist.”</td>
<td>Coercing; great danger, last resort</td>
</tr>
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</table>

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before suicide. One study reported that up to 69% may present to the ED for a non–suicide-related issue before suicide. Making detection more difficult, patients present for somatic complaints and do not offer information on worsening mood or decreased interest and pleasure unless asked. Screening is, therefore, key in the ED setting (See ‘DSM-5 Diagnostic Criteria for Major Depressive Disorder’ in The diagnostic and statistical manual of mental disorders. American Psychiatric Association. 5th edition. Available at: http://www.dsm5.org/).

Many treatments, in the form of psychotherapy and psychopharmacology, are available for the depressed patient. If the patient has a mild depression, referral to outpatient psychotherapy may be sufficient. As severity progresses, however, the treatment must become more aggressive. This treatment may include medication, although there is controversy as to whether to start an antidepressant in the ED. Sources have suggested that it is only safe to do so when there is adequate and secure follow-up for the patient. Selective serotonin reuptake inhibitors, felt to be relatively safe medications, can cause multiple side effects in the mother. These side effects, along with other factors, may lead to early discontinuation of treatment, which increases risk of problematic outcomes. Also, the initiation of these medications, or serotonin norepinephrine reuptake inhibitors, can themselves cause anxiety. For the anxious patient, it is generally recommended to start at half the normal starting dose for the first 1 to 2 weeks. When a patient has severe depression, especially if having associated psychosis, admission to a psychiatric hospital is necessary. The threshold for admission is generally lower in a pregnant and postpartum patient owing to the high incidence of psychosis and the importance of maternal and fetal well-being.

For the postpartum patient, recognizing depression is necessary to help the patient and baby. Severe depression can cause the mother to not properly care for the infant or may cause psychosis, which can lead to direct harm of the infant. Psychosis may be as frequently as 1 in every 1000 deliveries. Patients with bipolar I disorder may present to the ED in a manic state. Treatment in this setting will mostly focus on agitation (see “Agitation in Pregnancy”). Atypical antipsychotic medications may be preferred in pregnancy over medications like lithium or valproate, but themselves have a number of side effects (see Table 1). If the patient recently and abruptly stopped a medication, the safest course might be to restart this medication, although possible exceptions to this would be if the medication is a known teratogen, especially during early pregnancy. Acutely, treatment is in the form of antipsychotic medications and admission to a psychiatric facility.

**Psychotic Disorders During Pregnancy**

New-onset psychosis in pregnancy is exceptionally rare, with exacerbation of a primary psychotic illness or mood disorder with relapse being much more common. Patients who present to the ED with new-onset psychosis, therefore, require a full medical evaluation for conditions that may have psychosis as a symptom. If this medical evaluation does not reveal an underlying medical condition, treatment is similar to that discussed. Unlike antidepressants, starting antipsychotics in the ED may reduce long-term morbidity, although discussion with the patient about possible fetal harm is mandatory (Nordstrom; see also Table 1). In 2004, a Cochrane review noted that since there are no clinical trials of antipsychotic use during pregnancy, no conclusion can be reached as to their efficacy and safety (Webb and colleagues; see also Table 1). Although there are no known “safe” antipsychotics in pregnancy, use of medication is generally considered less harmful to the patient and fetus than severe untreated psychosis.
SUMMARY

The management of psychiatric conditions in pregnant women involves a comprehensive evaluation and a strong teamwork between the emergency physician, the obstetrician, and the psychiatrist. Depending on the stage of pregnancy at the time of presentation, a comprehensive support system for the mother and infant are as essential as the medical management of these patients.

Thorough medical screening and evaluation should take place for all pregnant patients presenting with psychiatric complaints. Physicians should “examine thoroughly and test selectively.” There should be consideration for more extensive testing in patients with new-onset psychiatric disease, especially psychosis, because this is less common among pregnant patients. Mental status examinations may be useful in this population to specifically exclude delirium.

There is controversy over the use of routine laboratory testing, and this cannot be recommended for nonpregnant patients with exacerbations of existing psychiatric disease. However, pregnant patients are a special population, and emergency physicians should have a lower threshold to obtain laboratory evaluations in these patients.

Although no psychotropic medications are considered safe in pregnancy, the risk associated with the illness is greater than the known risks of medications, which are not known teratogens. In mild to moderate depression and anxiety, medication can largely be avoided if psychotherapy with close follow-up can be arranged. For severe depression, mania, and psychosis, medication may be necessary. If so, medications like lithium, valproic acid, carbamazepine, and benzodiazepines should generally be avoided.

REFERENCES


