Pregnancy Disasters in the First Trimester

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KEYWORDS

• Pregnancy • Ectopic pregnancy • Abortion • Vaginal bleeding • Ultrasonography • Appendicitis • Hyperemesis gravidarum • β-hCG

KEY POINTS

- A primary goal in pregnant patients complaining of abdominal or pelvic pain with or without vaginal bleeding in the first trimester is to differentiate between ectopic pregnancy and spontaneous abortion.
- Bedside ultrasonography and β–human chorionic gonadotropin (β-hCG) allow emergency medicine clinicians to obtain accurate information faster, improving time to consultation and increasing patient satisfaction.
- Low levels of β-hCG do not reliably exclude an ectopic pregnancy.
- In patients who have undergone assisted reproduction, the finding of an intrauterine pregnancy does not exclude the diagnosis of an ectopic pregnancy.
- All female patients of childbearing age should be considered pregnant until proved otherwise.

INTRODUCTION

Conditions such as abdominal pain, pelvic pain, and vaginal bleeding are common presenting complaints to the emergency department (ED). In short, any female patient of childbearing age is pregnant until proved otherwise. Early complications of pregnancy usually happen in the first trimester, before gestational viability. Pregnant women present a diagnostic challenge to clinicians. Patients' symptoms can be vague and, through a thorough history and methodical approach to pregnant patients, clinicians will be better able to identify those women who are ultimately at risk for death from ectopic rupture and other potential life-threatening obstetric complications.

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Once a female patient is determined to be pregnant and is presenting with abdominal pain, pelvic pain, or vaginal bleeding, the emergency medicine clinician is left with 2 primary questions: is the pregnancy intrauterine or ectopic and, if the pregnancy is intrauterine, is the pregnancy viable? With quantitative β–human chorionic gonadotropin (β-hCG) and bedside ultrasonography (US), emergency medicine clinicians are frequently able to make a definitive diagnosis and disposition on the first visit.[1]

There has been an increase in the availability and use of bedside US in EDs. The approach to female patients with pelvic complaints (including pelvic pain, vaginal bleeding, and vaginal bleeding in pregnancy) has been transformed by the use of bedside US. Clinicians familiar with transabdominal US (TAU) and transvaginal US (TVU) examinations can obtain more accurate information faster, thereby improving time to consultation or discharge and achieving an increase in patient satisfaction.[2,3]

THE BASICS

It is important to understand fundamental information about the pregnant patient and be able to articulate those findings with the consultant obstetrician.

First and foremost, as with all patients, it is important to enter into the patient interaction with understanding and empathy and avoid judgment. The patient may, or may not, have known that she was pregnant on entering your department. It is insensitive to assume that the news you are delivering to the patient about her pregnancy status or her diagnosis is either welcome or unwelcome. It is essential to use this opportunity to be patient, sensitive, aware, and if necessary include social work resources during the patient visit. It is important to remember that this could be a pregnancy resulting from sexual abuse and the pregnancy is unwanted, or that this may be a patient who has spent her life savings on fertility treatments and the news that her pregnancy is no longer viable could be devastating.

PHYSIOLOGIC CHANGES IN PREGNANCY

Pregnancy involves a number changes in anatomy, physiology, and biochemistry. These changes can challenge the maternal reserves. Knowledge of these adaptations is critical for understanding normal laboratory measurements, knowing the drugs likely to require adjustments, and recognizing women who are predisposed to medical complications during pregnancy. **Table 1** lists the changes that may be seen in early pregnancy.

EMERGENCY DEPARTMENT EVALUATION OF PREGNANT PATIENTS

Triage and Initial Management

Any female patient of childbearing age who presents with abdominal, pelvic pain, or vaginal bleeding and who is hemodynamically unstable should be moved to a major resuscitation area, have 2 large-bore intravenous (IV) lines placed, and receive an initial fluid bolus of an isotonic crystalloid solution. Rapid assessment of pregnancy status and anemia are first priorities. Patients with mild pain and/or bleeding with stable vital signs can be seen in a timely manner; however, it is important to frequently reassess vital signs in these patients to determine whether the patient's clinical course is worsening. The approach to pregnant patients should be handled similarly to that of nonpregnant patients. Determining whether a female patient is pregnant allows clinicians to expand the differential diagnosis and approach the patient in a systematic way, asking key historical questions and formulating the most likely clinical path to achieve the accurate diagnosis.