Appendicitis is the most common nonobstetric emergency requiring surgery during pregnancy.\textsuperscript{1,2} Diagnosis of appendicitis is complicated by the physiologic and anatomic changes that occur during pregnancy.\textsuperscript{2} This can result in delayed diagnosis, increased risk of morbidity for mother and fetus, and fetal loss.\textsuperscript{3}

Incidence of appendicitis during pregnancy ranges from 0.05\% to 0.13\%\textsuperscript{1,4,7,8}; it usually occurs in the second\textsuperscript{3,4,7,8} or third trimesters.\textsuperscript{4} Appendicitis occurs at the same rate in pregnant and non-pregnant women,\textsuperscript{3,4,9} but pregnant women have a higher rate of perforation.\textsuperscript{2} One study found an inverse relationship between pregnancy and appendicitis, especially in the third trimester, suggesting that pregnancy has a protective effect.\textsuperscript{7}

**Diagnosis**

Difficulty in diagnosing appendicitis during pregnancy arises from the fact that its symptoms are similar to those of pregnancy\textsuperscript{1,4,10}: anorexia, nausea, and vomiting. Leukocytosis and a diminished tendency to develop hypotension and tachycardia, which are physiologic in pregnancy, add complexity to the diagnosis.\textsuperscript{2,9} Displacement of the appendix by the uterus\textsuperscript{11} and increased separation of the visceral
and parietal peritoneum, which decreases the ability to localize tenderness on examination, further complicates diagnosis.

History and physical examination remain useful. Right lower quadrant pain, right upper quadrant pain, diffuse periumbilical pain migrating to the right lower quadrant, and nausea and vomiting are common symptoms. The most common signs of appendicitis are abdominal tenderness, most often in the right lower quadrant, and rebound tenderness and guarding, which are thought to be less common late in pregnancy due to the laxity of abdominal wall muscles. One study found that less than one third of patients had the classic obturator, psoas, and Rovsing signs. Fever has not proved to be a reliable sign of appendicitis, and laboratory findings, including leukocytosis and C-reactive protein, have been found unreliable for diagnosis.

Ultrasonography, as yet not fully evaluated, was found helpful during the first trimester, but less useful as pregnancy progressed due to displacement of the appendix. It was helpful in excluding other pathology, but not useful for diagnosing appendicitis in most cases in another study. Laparoscopy has been described as useful, and laboratory findings, including leukocytosis and C-reactive protein, have been found unreliable for diagnosis.

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birth weight and an increase in the number of live-born infants dying within the first week. This study found no increase in stillborn infants or in congenitally malformed infants.

**Perforated appendix**

While delay in diagnosis is usually thought to result in a perforated appendix, some studies found no association between duration of symptoms and incidence of perforation and no correlation between time to surgery and incidence of perforation. Complications of appendicitis, including perforation, increase by trimester and a ruptured appendix results in increased fetal morbidity and mortality. The rate of fetal loss in uncomplicated appendicitis ranges from 0 to 1.5% and in ruptured appendicitis from 20% to 35%. Perforation can also result in an increased incidence of wound infection and an increased risk of generalized peritonitis because the omentum cannot isolate the infection.

Preterm labour is common in cases of ruptured appendix during the third trimester. Maternal mortality is extremely unusual; it increases up to 4% with advanced gestation and perforation.

**References**