Therapeutic options include anticoagulation, thrombolysis, transjugular intrahepatic portosystemic shunt, and LT.[272,273] Treatment choices in pregnancy are more limited, as vitamin K antagonists are contraindicated in pregnancy due to the risk of fetal hemorrhage and teratogenicity.[274,275] Thrombolytic therapy may be acceptable, but data are limited. Low-molecular-weight heparin is the anticoagulant of choice during pregnancy. Breastfeeding is acceptable with vitamin K antagonists and low-molecular-weight heparin.

GUIDANCE STATEMENTS

- Doppler US is the imaging modality of choice for diagnosing BCS.
- Treatment of acute BCS is the same as in nonpregnant patients with the exception of more limited choices of anticoagulation and insufficient safety data to endorse thrombolytic therapy in pregnancy.
- Low-molecular-weight heparin is the anticoagulant of choice during pregnancy and lactation in women with BCS.
- Vitamin K antagonists are contraindicated during pregnancy but acceptable during breastfeeding.

GALLSTONE DISEASE IN PREGNANCY

Hormonal changes in pregnancy lead to decreased gallbladder motility and lithogenic bile.[276] The strongest risk factors are high prepregnancy BMI and high serum leptin level.[277] Although gallstones may occur in up to 10% of pregnancies, the estimated incidence of gallstone-related disease complicating pregnancy is 0.5% to 0.8%.[278,279] US is the diagnostic imaging of choice.

Symptomatic biliary colic is the most common presentation, although pancreatitis, cholangitis, or acute cholecystitis may occur. Management is similar to the nonpregnant patient, with supportive care as the first-line treatment. If recurrent or persistent episodes or other complications occur, ERCP or cholecystectomy should be considered.

Cholecystitis has high recurrence rates if treated conservatively[280,281] and is associated with prolonged hospitalization, preterm delivery, and spontaneous abortions. Gallstone pancreatitis is associated with increased risk of fetal death.[282]

Laparoscopic cholecystectomy and ERCP are safest if performed in the second trimester. When possible, nonoperative management is preferred in the third trimester.[283] However, emergent surgery should be performed regardless of trimester. Fetal radiation risk is the main concern with ERCP during pregnancy (Table 3). Radiation risks during ERCP can be minimized by directing the x-ray beam on the treatment area, limiting procedure duration, and using lead shields on the pelvis and lower abdomen. If technically feasible, an ERCP without fluoroscopy can also be considered.

There is no role for UDCA therapy. Biliary sludge may resolve postpartum, although gallstones often persist.[284]

GUIDANCE STATEMENTS

- US is the imaging modality of choice for suspected gallstone disease in pregnancy.
- Initial management of gallstone disease in pregnancy is supportive, although ERCP and laparoscopic cholecystectomy can be considered, ideally in the second trimester.
- If ERCP is required, fetal radiation should be minimized by reducing fluoroscopy time and shielding the fetus with lead shields placed on the pelvis and lower abdomen.

ACUTE VIRAL HEPATITIS

Pregnancy is not associated with a higher incidence of acute or severe viral hepatitis, except for hepatitis E virus (HEV) and herpes simplex virus (HSV) infections. For acute hepatitis unrelated to HEV or HSV, management is similar to nonpregnant women, with supportive care being the mainstay. For treatment of acute HBV, TDF is the antiviral drug of choice during pregnancy.[116] For symptomatic acute viral hepatitis, potential adverse outcomes include spontaneous abortion,[285] preterm labor,[285-288] and MTCT of viruses, although risks are poorly quantified due to the rarity of reported cases.

Hepatitis E

Typically, HEV infection is a mild self-limiting disease with low case fatality rate, but pregnant women, particularly in the second and third trimester, are more susceptible to HEV and severe clinical