

## Mini Review

# Management of Extrahepatic Biliary Disease of Pregnancy: A Continuous Dilemma

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Symptomatic extrahepatic biliary disease is the second most common abdominal emergency in pregnant women. Recently, there have been significant developments in the management of extrahepatic biliary diseases. Most of literature suggested that; operative and endoscopic interventions are safe during pregnancy but there is no consensus about management of these patients.

The aim of this review is to sum up recent concepts about hepatobiliary problems in pregnancy and to find the latest comprehensive management of biliary disease in pregnants.

**Keywords:** Pregnancy; Biliary tract disease; Cholelithiasis; Cholecystitis**Introduction**

Biliary tract diseases are the most common abdominal emergencies during the process of pregnancy [1]. Acute appendicitis and intestinal obstruction are the other abdominal emergencies during pregnancy [2,3]. Although 2-4% of pregnant women have asymptomatic gallstones, incidence of symptomatic gallbladder disease during pregnancy ranges from 0.05% to 0.3% and surgical intervention will be needed for 40% of symptomatic group<sup>1</sup>. Furthermore; fetal loss rate of biliary emergencies is 10-20%, in pregnancy. On account of this, the evaluation of these patients is both important and difficult. The aim of this review is to sum up recent concepts about hepatobiliary problems in pregnancy and to find the latest comprehensive management of biliary disease in pregnants.

**Etiology and Pathophysiology**

Some changes such as hormonal imbalance, causes reduced gallbladder motility and high density cholesterol-rich bile secretion [3]. Although several studies did not explain the main cause of cholelithiasis, its pathogenesis appears to be associated with the fluctuations of hormone levels during pregnancy. High levels of progesterone in pregnancy, reduces response of gallbladder to cholecystokinins and also gallbladder ejection fraction decreases due to increased gallbladder volume [4]. Other important factors of pathogenesis are environmental effects [5]. As a result of these, lithogenic bile formation mechanism is being activated.

Choledocholithiasis, acute biliary pancreatitis or ascending cholangitis are other reasons for serious morbidity and mortality. Especially, pregnant patients with irregular treatment of biliary pancreatitis have the rates of 37% mortality and 38% fetal loss [6]. In addition, premature delivery is also another important complication of biliary tract disease during pregnancy. Complicated pancreatitis is commonly having been managed conservatively and elective cholecystectomy should be performed later in these patients.

In the study of Maringhini et al. [7] it was noticed that, one-third of biliary sludge and biliary stones which were diagnosed during

pregnancy were disappeared after delivery. Also Blum et al. [6] declared symptomatic gallstones during pregnancy may be prolonged to postpartum period, in their review. More than half patients, who have complaints related to gallstones detected during pregnancy, have recurrent symptoms until delivery [8]. In a study of 47 biliary colic, acute cholecystitis and biliary pancreatitis patients in 30,000 pregnant group, all symptomatic patients had conservative treatment and 33%, 50% and 50% of patients had recurrent symptoms, respectively [8]. Advanced maternal age and multiple previous pregnancies increase the risk of gallstone formation [9].

Several studies suggest different management procedures for hepatobiliary diseases in pregnancy, especially symptomatic cholelithiasis patients. Some studies declared that surgical treatment is feasible for patients admitted with biliary symptoms during second trimester of pregnancy. In other words, they suggested that if indication of surgical intervention occurs, it should be performed during the second trimester of pregnancy [1]. However, several studies suggested conservative treatment for pregnant patients admitted with biliary symptoms who are in their first and third trimesters [1,10,11]. Second trimester has determined as the best period for surgery, due to the fact that completed organogenesis and the uterus is not big enough to obliterate the surgical view [12]. In the situation of a risk of fetal loss, important biliary complications or biliary colic, operation should be suggested as soon as possible. Dhupar R et al., also studied the safety and efficacy of delaying cholecystectomy for symptomatic gallbladder disease during pregnancy; they suggested that the operative intervention for non-emergent symptomatic gallbladder disease during pregnancy may be beneficial and reduce overall morbidity [13]. In several studies comparing the efficacy of conservative methods and surgical interventions; no significant difference was found in terms of maternal mortality [13-16]. In their study, Mohamed O et al. compared the results of conservative treatment versus laparoscopic surgical treatment during pregnancy with 112 patients. They suggested that; operative and endoscopic interventions are alternative reliable treatments during pregnancy [17]. In a similar study of Avila-Silva et al; maternal and fetal outcome

did not showed any significant difference even reduced incidence of fetal and maternal mortality [18]. Swisher et al. [19] noticed that; there was a readmission rate of 38% to 70% in conservative treated patients. The incidence of preterm interventions increases in parallel with readmission rate (3.5%). However, surgically treated patients have much more preterm interventions rate (6.0%).

## Conclusion

Because of life-threatening complications of biliary tract diseases, early and accurate diagnosis of these diseases has additional importance in pregnant because of maternal-fetal mortality and morbidity. Innovations in diagnostic methods and treatment alternatives, have been induced a decrease in maternal and fetal mortality. Besides there is no consensus about management of these patients and there are limited randomized controlled trials about this topic. We need multicenter randomized trials from different centers in order to create a treatment algorithm in pregnant biliary tract diseases.

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