



## Intrahepatic Cholestasis of Pregnancy

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### Abstract

Intrahepatic cholestasis of pregnancy is a liver disorder which occur during third trimester of pregnancy and subside after delivery. The condition occurs in all ages both primiparous and multiparous women. Intrahepatic cholestasis of pregnancy is more common in women with family history of this disorder and also use of oral contraceptives. The causes are unknown but it may due to genetic, hormonal and environmental factors. During pregnancy, due to increase of estrogen the flow of bile in liver was slow. So, bile builds up with liver and enter through bloodstream. Main symptom is itching which is usually occur in hand and feet and spread to other parts body. Itching is worse at night. Ursodeoxycholic acid 15-20 mg/kg/day is choice of drug to improve itching. Monitored women with twin pregnancy and history of still birth closely during third trimester of pregnancy.

**Keywords:** Intrahepatic Cholestasis; Pregnancy

### Introduction

Intrahepatic cholestasis of pregnancy (ICP) is liver disorders that develop during third trimester of pregnancy and is associated with an increased risk of adverse obstetrical outcomes like sudden fetal demise [1]. Intrahepatic cholestasis of pregnancy (ICP) is known as obstetric cholestasis (OC).

### Definition

Intrahepatic cholestasis of pregnancy (ICP) is a cholestatic disorder characterized by pruritus, elevated serum aminotransferases and bile acid levels, and spontaneous relief of signs and symptoms within two to three weeks after delivery [2].

### Incidence

The prevalence of this liver disorder varies according to geographical area and ethnicity [3]. At least 15 in 1000 women of Indian or Asian whereas 0.4-1% of pregnancies in Central and Western Europe and North America [4]. A higher incidence is seen

in twin pregnancies, women with advance age (35 years), with history of cholestasis in previous pregnancies and history of biliary disease [5].

According to American Liver foundation (2021) stated that Intrahepatic Cholestasis of Pregnancy will recur in future pregnancies is 60% or as high as 90% for severe ICP.

### Causes

- Unknown
- Advance age more than 35 years
- Genetic
- Hormonal
- Build-up of bile acids
- Other substances in the liver
- Multiple pregnancy
- History of liver disease

- Cholelithiasis
- Environmental and seasonal factors.

**Pathophysiology**

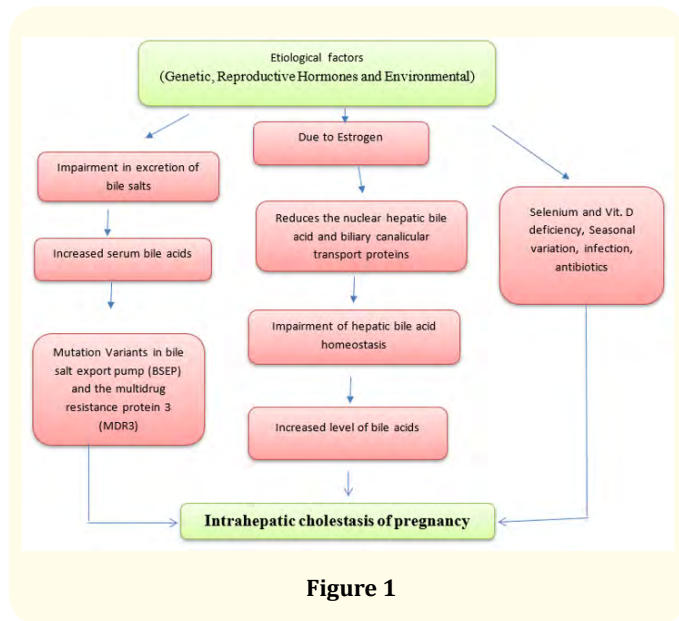


Figure 1

**Symptom**

- Itching is more intense over the palms and sole.
- Extend itching to the trunk, extremities and eyelid
- Pruritus is worse at night
- Dark urine
- Fatigue (extreme tiredness)
- Decreased appetite
- Pain in the upper right belly
- Nausea
- Jaundice is uncommon
- Light-colored stool.

**Diagnosis**

- Genetic testing
- LFT
- Serum bilirubin level
- Urine

- Ultrasound
- Liver biopsy.

**Complication**

- Premature delivery
- Meconium staining of the amniotic fluid
- Respiratory distress
- Low APGAR scores
- Stillbirth [6,7].

**Management**

**Monitoring**

- Monitored closely during the third trimester (twin pregnancy, history of stillbirths). In 2019 a study revealed that over 5000 cholestasis pregnancies determined stillbirth risk based upon bile acid levels. Stillbirth risk was: 0.13% if bile acids were 0-39; 0.28% if bile acids were 40-99 and 3.44% if bile acids were over 100.
- Blood tests (LFTs and bile acid tests) should be done weekly or more frequently, depending on the stage of pregnancy and the results of the previous test.
- Fetal monitoring should start from 32 weeks of pregnancy biweekly USG and Non stress test.
- Monitoring of fetal heart beats is using a cardiotocography.

**Medications**

- Ursodeoxycholic Acid improves cholestasis by stimulating biliary excretion of bile acids. Some studies showed that there is beneficial effects for the fetus and the pregnancy including reducing risk of meconium staining, protecting the baby’s heart against changes induced by bile acids, placenta’s restoring the ability to transport bile acids away from the baby, and protecting cells from damage due to bile acids.
- Diphenhydramine is used to treat symptomatic Pruritus.
- Cholestyramine, S-Adenosyl-L-methionine (SAME) and Rifampin are used in only a minority of cholestasis cases.
- Betamethasone is a steroid medication that can be given in a pregnancy to help prevent complications of prematurity in the fetus and aid with lung maturity. Terminated pregnancy at 38 weeks who have jaundice after fetal lung maturity.

### Diet

- A healthy diet is recommended during pregnancy for growth and development of fetus as well as to manage the symptoms of Intra-hepatic cholestasis in pregnancy.
- Fresh fruits and vegetables contain important nutrients such as Vitamins, Minerals and fiber are the best during pregnancy.
- There is no research shown that Intra-hepatic Cholestasis of Pregnancy and diet but some evidence has suggested that it may help women that experience ICP to reduce symptoms.

### Conclusion

Intra-hepatic Cholestasis of Pregnancy is a common disease of skin and develops in the third trimester of pregnancy characterized by pruritus with impaired liver function and raised serum bile acids. It has a complex etiology with genetic, endocrine and environmental components. ICP is associated with pre-term delivery, fetal distress and adverse fetal outcomes (stillbirth). The most effective pharmacological therapy for improvement of maternal symptoms and biochemical abnormalities is ursodeoxycholic acid.

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