

## **Abstrakt**

**INTRODUCTION:** Intrahepatic cholestasis of pregnancy - ICP (Intrahepatic Cholestasis of Pregnancy) is a reversible form of cholestasis, specific only for pregnancy. In the Polish population, intrahepatic cholestasis complicates 0.32% to 1% of pregnancies. Moreover, this pathology does not lead to a permanent mother's liver damage, but may have serious consequences for the fetus, such as premature birth, fetal asphyxia, or even intrauterine fetal death.

**OBJECTIVE:** The purpose of the study was to determine the influence (relationship) of the intrahepatic cholestasis in women on the course of pregnancy, delivery and the adaptation period in newborns.

**MATERIALS AND METHODS:** The study was carried out in the Department of Perinatology and Gynecology of the Polish Mother's Memorial Hospital Research Institute in Lodz in 2014-2016. A total number of the studied population was 84 women: 64 (76.2%) pregnant women with a spontaneous intrahepatic cholestasis of pregnancy, including severe cholestasis in 10 cases (11.9%) and mild cholestasis in 54 cases (64.3%), and the control group consisted of 20 patients (23.8%) in whom intrahepatic cholestasis of pregnancy was excluded.

**RESULTS:** Bile acid levels were significantly different in all groups - pregnant women with severe and mild cholestasis have significantly higher bile acid levels than the control group. Bile acid concentrations decreased importantly in all groups after delivery. There was no difference in the hemoglobin level in the study groups. The hematocrit level was crucially lower in women with cholestasis compared to the control group. There was a significant difference in the number of leukocytes between mild cholestasis, severe cholestasis and the control group. Pregnant women with cholestasis had lower levels of red blood cells than the control group. Higher bile acid concentrations were detected in women with higher AST and ALAT levels.

The occurrence of cholestasis is significantly determined by two blood count parameters: the number of erythrocytes ( $p = 0.037^*$ ) and leukocytes ( $p = 0.075$ ). The risk of cholestasis is lower in women with lower numbers of erythrocytes (OR = 0.091) and leukocytes (OR = 0.825). Most of the examined newborns (81%) were born by cesarean section, especially in severe cholestasis cases. The lowest 1-minute V. Apgar score was found in neonates in the severe cholestasis group (7.4), followed by mild cholestasis (8.8) and the control group (9.0).

The lowest body weight of newborns was detected in the severe cholestasis group.

The longest hospitalization time was determined in the severe cholestasis and total cholestasis group (9,19). Moreover, breathing disorders in newborns occurred in severe cholestasis.

A significantly higher ( $p = 0.033^*$ ) bilirubin level was found in newborns in the control group than in the total cholestasis group. The highest ASPAT and ALAT values in newborns occurred in the control group, and the lowest in severe cholestasis.

The highest values of alkaline phosphatase and bile acids in newborns occurred in the severe cholestasis group.

Intracranial bleeding in ultrasound examination was most often found in the group of newborns with severe cholestasis (20%), mild cholestasis (5.6%), and not in the control group.

**CONCLUSIONS:** The severity of gestational cholestasis, measured by the concentration of bile acids, was associated with the degree of liver cell damage, measured by the concentration of ASPAT and ALAT. In the studied population with intrahepatic cholestasis of pregnancy, anemia was more common. The risk of ICP was higher in women who used long-term oral hormonal contraception. The severity of cholestasis of pregnancy in the study population was associated with a lower assessment of the newborn's birth condition: a lower Apgar score at 1 and 5 minutes after birth, low body weight of newborns, more frequent occurrence of respiratory disorders, and a longer period of hospitalization. The use of drugs and an intensive supervision model, using available methods for assessing fetal well-being and biochemical assessment of liver function, under conditions of continuous hospitalization from the moment of diagnosis of cholestasis of pregnancy to the moment of delivery, does not eliminate the occurrence of cases of prematurity, respiratory disorders in newborns and intracranial bleeding.