

Investigating the relationship between infant jaundice and maternal hypothyroidism

Abstract

Background: Maternal hypothyroidism is a known cause of fetal growth and development disorders. Thyroid hormones have many changes during life and can have very serious effects on human health. Following the physiological and hormonal changes caused by pregnancy, the effect of a factor such as maternal hypothyroidism on the newborn's bilirubin metabolism is considered to be the main determinant of neonatal jaundice.

Aim: determine the relationship between maternal hypothyroidism and infant jaundice

Materials and methods: The present study was conducted using a retrospective cohort method, with the inclusion of full-term infants of hypothyroid mothers and euthyroid mothers. 312 healthy mothers and 297 hypothyroid mothers were initially included in the study, and after the study process, 62 healthy mothers and 47 hypothyroid mothers were removed from the study due to non-cooperation, and 250 people remained in each group. The status of serum bilirubin on the third day after the birth of babies and variables such as gestational age, mother's age, gender of the fetus and the functional state of the mother's thyroid were obtained and analyzed between different study groups.

Results: The prevalence of jaundice was higher among the babies of hypothyroid mothers, however, this difference was not statistically significant ($P < 0.05$). No difference was found between the mean bilirubin of icteric infants based on the mother's thyroid status ($P < 0.05$). The correlation between the amount of serum bilirubin in icteric infants with maternal age and gestational age in different functional groups was close to zero and not statistically significant ($P < 0.05$). Also, there was no relationship between the occurrence of jaundice and the form of delivery, however, the incidence of jaundice in babies of healthy euthyroid mothers who were born by cesarean section was 1.8 times that of babies who were born through the natural method (birth canal) ($P = 0.023$). There was no difference in the incidence of jaundice based on the gender of the babies ($P < 0.05$).

Conclusion: There is no difference between indicators related to bilirubin metabolism in hypothyroid mothers who receive alternative drug therapy.

Key words: hypothyroidism, neonatal jaundice, bilirubin