



Study of foetal and perinatal outcome in subclinical and overt hypothyroid disorders in pregnancy

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Abstract

In India thyroid disorders are in a transition zone from a predominant iodine deficient nation to now an iodine sufficient population. Rate of foetal loss is twice normal, there is increased risk of preterm delivery, 10 to 20% congenital anomalies and poor somatic and intellectual developments in 50 to 60% of surviving offspring, if pregnancy was complicated by thyroid disorders. This is a prospective study consists of cases of documented pregnancies recruited from department of obstetrics & gynaecology at Sri Krishna medical college and hospital, Muzaffarpur, from April 2017 to march 2018. 500 antenatal women irrespective of thyroid status at first visit will be screened for hypothyroidism by TSH level. In present study, the incidence of foetal complication in women with subclinical hypothyroidism was LBW (7.04%), IUGR (4.2%), foetal distress (11.2%) and foetal death (0%). In present study, the incidence of foetal complication in women with overt (uncontrolled) hypothyroidism was LBW (20.68%), IUGR (17.24%), foetal distress (13.79%) and foetal death (0%). LBW found in 7.04% (5/71) women with subclinical hypothyroidism and 20.68% (6/29) women with overt hypothyroidism.

Keywords: overt hypothyroid, iodine, pregnancy

Introduction

In India thyroid disorders are in a transition zone from a predominant iodine deficient nation to now an iodine sufficient population [2]. The global prevalence is more than 2 billion with more than 40 million in India. Rate of foetal loss is twice normal, there is increased risk of preterm delivery, 10 to 20% congenital anomalies and poor somatic and intellectual developments in 50 to 60% of surviving offspring, if pregnancy was complicated by thyroid disorders⁴. Perinatal morbidity and mortality are also high because of increased frequency of LBW babies, still births and neonatal deaths. We take this study in order to determine the foetal and perinatal outcome in subclinical and overt hypothyroidism in pregnancy.

Aims and objectives

To study foetal and perinatal outcome in pregnancy complicated by subclinical and overt hypothyroidism.

Materials and Methods

This is a prospective study consists of cases of documented pregnancies recruited from department of obstetrics & gynaecology at Sri Krishna medical college and hospital, Muzaffarpur, from April 2017 to march 2018. 500 antenatal women irrespective of thyroid status at first visit will be screened for hypothyroidism by TSH level. Serum free T4 and T3 level will be measured in patient with abnormal TSH level. Foetal outcome in both the groups (subclinical and overt hypothyroidism) in terms of IUGR, low birth weight, foetal

death, still-birth, foetal distress, complicated delivery and other foetal complications were evaluated.

Observations and Results

In present study, the incidence of foetal complication in women with subclinical hypothyroidism was LBW (7.04%), IUGR (4.2%), foetal distress (11.2%) and foetal death (0%). In present study, the incidence of foetal complication in women with overt (uncontrolled) hypothyroidism was LBW (20.68%), IUGR (17.24%), foetal distress (13.79%) and foetal death (0%). LBW found in 7.04% (5/71) women with subclinical hypothyroidism and 20.68% (6/29) women with overt hypothyroidism. The difference was statistically significant. Similarly IUGR found in 4.2% (3/71) women with subclinical hypothyroidism and 17.24% (5/29) women with overt hypothyroidism. The difference was statistically significant. Other complication was foetal distress found in 11.2% (8/71) subclinical hypothyroid women while in women with overt hypothyroidism, foetal distress found in 13.79% (4/29) women. However difference didn't reach the significant level.

Discussion

The present study was a prospective study done in obstetrics and gynaecology department of Sri Krishna medical college and hospital, muzaffarpur. Total of 500 pts were screened for subclinical and overt hypothyroidism to study the foetal and perinatal outcome in pregnancy.

In present study, subclinical hypothyroidism was associated with complications like IUGR (4.2%), LBW (7.04%) and foetal distress (11.2%). In a study done by Sahu MT *et al.* [11], the complications like preterm delivery (10.3%), IUGR (2.4%), SB (2.5%) were seen in cases of subclinical hypothyroidism. In a study done by Leung *et al.* [9] the complications like PTD (9%), and LBW (9%) were seen in cases of subclinical hypothyroidism. Ajmani SN *et al.* [8] also reported complications like abortion (5.5%), PTD (11.2%), LBW (25%) and IUGR (8.4%) in women with subclinical hypothyroidism.

In present study, overt (uncontrolled) hypothyroidism was associated with complications like abortion (24.13%), PTD (13.79%), IUGR (17.24%), LBW (20.68%) and foetal distress (13.79%). In a study done by Sahu MT *et al.* [11], the complications like PTD (4.7%), IUGR (13.8%), and SB (2.9%) were seen in cases of overt hypothyroidism. In a study done by Abalovich *et al.* [7] the complications like LBW (6%), and SB (3%) were seen in cases of overt hypothyroidism. In a study done by Leung *et al.* [14], the incidence of complications was LBW (22%), and SB (4%) in cases of overt hypothyroidism. Ajmani SN *et al.* [8] also reported complications like APH (16.6%), abortion (16.6%), PTD (33.3%), LBW (50%), IUGR (25%), and foetal death (16.6%) in women with overt hypothyroidism. The incidence of complications varies in different studies but some are comparable.

Conclusion

Present study shows high prevalence of thyroid dysfunction, especially hypothyroidism among Indian pregnant women with associated adverse pregnancy outcome. Therefore, Screening for thyroid dysfunctions has to be included as a routine antenatal screening test to improve maternal and fetal outcome. Prevalence of thyroid dysfunctions, especially subclinical hypothyroidism (7.1%) and overt hypothyroidism (2.9%) is high. Significant adverse effects on perinatal outcome were seen in patients with subclinical and overt hypothyroidism emphasizing the importance of routine antenatal thyroid screening. Our results provide a strong argument for expedition of diagnosis and treatment of hypothyroid disorders as maternal and foetal complications occurred more commonly in overt and uncontrolled hypothyroidism. Ideally patients should be made euthyroid before delivery.

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