



Study of prevalence of thyroid disorders in pregnancy and its outcome

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Abstract

Introduction: *Thyroid disorders are one of the most common treatable cause of prenatal mortality. Maternal thyroid disorders during early pregnancy can influence the pregnancy outcome and fetal development.*

Aim and Objective: *Study of prevalence of thyroid disorders in pregnancy and its outcome.*

Material and Method: *It was a prospective study done in department of Obstetrics and Gynecology in Maharani Laxmi Bai Medical College, Jhansi for a period of 6 months.*

Result: *Out of total 150 cases, majority belong to 21-35 years age group. The prevalence of thyroid disorder in pregnant women (150) in our study was 12.0%.*

Conclusion: *Early diagnosis of thyroid disease using serum TSH, Free T3 and Free T4 levels in all reproductive females can improve pregnancy outcome and decrease perinatal & neonatal mortality and impact on fertility.*

Introduction

Pregnancy is a state in which there is increased requirement of thyroid hormones. Pregnancy affects thyroid gland and its function in various ways. There is change in the level of thyroxine-binding globulin, total thyroid-hormone level and thyroid stimulating hormone (TSH) during normal pregnancy. Production and requirement of thyroid hormones both increases by approximately 50% during pregnancy^[1]. There is profound effect on future intellectual development of babies born to untreated and undertreated hypothyroid patients^[2].

According to the Western literature prevalence of hypothyroidism in pregnancy is around 2.5%^[3]. The prevalence of GD is around 0.1–0.4% and that of thyroid autoimmunity (TAI) is around 5–10%. In spite of various studies conducted on thyroid dysfunction there is a lack of data regarding exact prevalence of TD in bundelkhand region.

Materials and Methods

This study was conducted in department of obstetrics and gynecology MLB Medical College

Jhansi. This study was conducted for a period of 6 months from May 2019 to Oct 2019. 150 antenatal patients were selected randomly.

Inclusion Criteria

1) Antenatal patient

- singleton criteria
- gestation age 8-23 weeks
- primi gravida/ multi gravid

Exclusion Criteria

1) Antenatal patient

- Multifetal gestation
- Known case of chronic disorder – DM or HTN
- Previous bad obstetrics history with known causes

After taking consent, these patients were randomly selected for the study.

- Detailed history and general examination was done. History included regarding signs and symptoms of thyroid disorder, menstrual history, obstetrics, past , family history and personal history.
- Per abdomen and per vaginal examination done.
- TSH screening done and if TSH was deranged then FT3 and FT4 levels are checked.
- Depending on FT3 and FT4 they are grouped as subclinical/overt hypothyroidism or hyperthyroidism.

Results

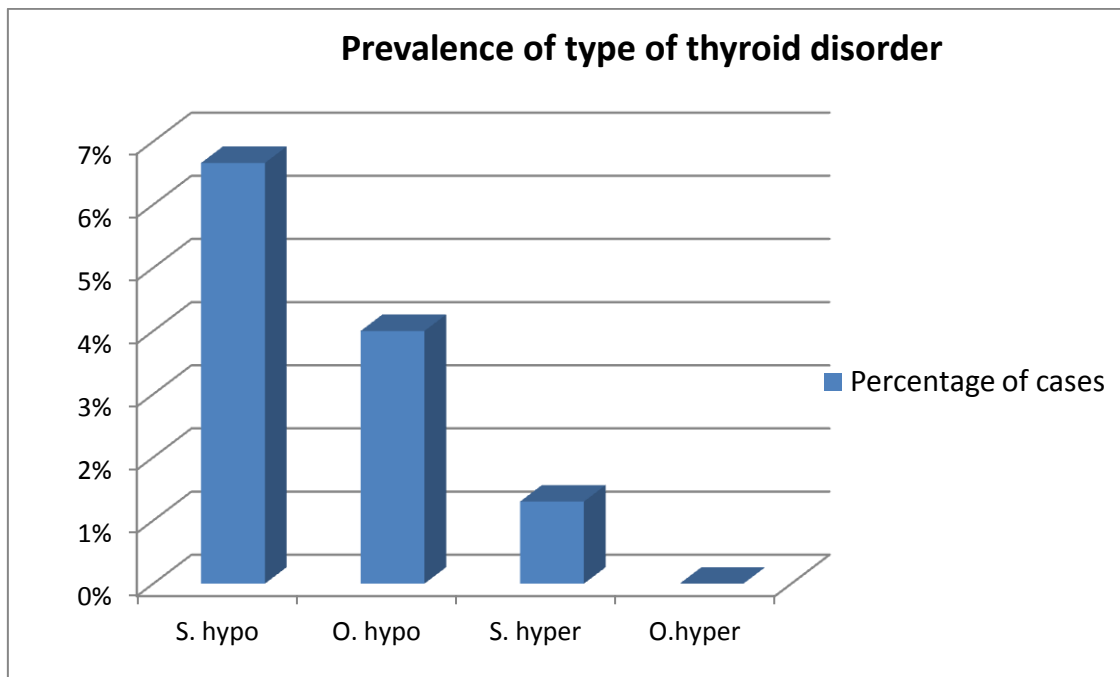
Demographic and Clinical Characteristics of Mothers With Respect to the Results of Thyroid Function Tests

Category	O.hypo	S.hypo	Control	O.hyper	S.hyper
Frequency, No. (%)	6 (4.0%)	10(6.66%)	132(88%)	2(1.3%)	0
Age(yrs)	27±4	25.8±3.5	25.5±3.6	24.4±3.6	
Weight(kg)	65.6±11.6	61.9±9	63.6±9	74±1.4	
Height(cm)	161.7±4.5	162.5±3.3	162.5±7.2	166.5±0.7	
BMI(kg/m ²)	24.8±3.4	23.4±2.9	29.3±1.18	26.7±0.73	
SBP(mmHg)	115.3±21.3	110.9±20.6	110.4±15	100±0.1	
DBP(mmHg)	78.6±11.3	76.9±10.1	76.3±10.5	70±7.07	
Mode of delivery, No. of CS	1 (16.33%)	2 (20%)	22 (16.66)	0	

The prevalence of thyroid disorders in our study was 12%. Prevalence of subclinical hypothyroidism was 6.66%.

Prevalence of types of thyroid disease in our study

Types of TD	No. of cases	Percentage (%)
S. hypo	10	6.66%
O. hypo	6	4%
S. Hyper	2	1.3%
O. hyper	0	0



Pregnancy Outcomes Categorised by TFT of Mother’s with Hypothyroidism

Mother thyroid status	Pre-eclampsia	IUGR	Preterm delivery	LBW	Still birth
Euthyroid	8 (6)	8(6)	17 (12.8)	9 (6.8)	2 (1.5)
Overt hypothyroidism • Frequency	1 (16.66%)	1 (16.66%)	1 (16.66%)	-	-
S. Hypothyroidism • Frequency	1 (10.0%)	1 (10.0%)	-	1 (10.0%)	
Total Mothers With Hypothyroidism • Frequency	2 (12.5%)	2 (12.5%)	1 (6.25%)	1 (6.25%)	

Discussion

The present study was done in MLB Medical College, Jhansi. A total of 150 patients were screened for thyroid disorders.

The prevalence of thyroid disorders in our study was 12%. Our findings were consistent with SAHU MT et al who studied 633 women in 2nd trimester. In there study the prevalence of thyroid disorders was 12.7%.

The prevalence of subclinical hypothyroidism in our study was 6.66% which was 6.47% in the study of SAHU MT et al^[4]. In the study done by CASEY BM et al the prevalence was 23% which was very high^[5].

The prevalence of overt hypothyroidism in our study was 4% which is consistent with study by SAHU MT et al in which prevalence is 4.56%^[4].

The prevalence of subclinical hyperthyroidism in our study was 1.3% and no cases of overt

hyperthyroidism was seen .In study by SAHU MT et al it was 0.9% & 0.7%^[4]. In study by tuija mannisto et al the prevalence was 3.5%& 1.3% respectively in similar STUDY done by Stagnaro green A the prevalence was 0.5% & 0.4% respectively^[6,7].

In our study the complications like PE, PTD, LBW were 10% each in subclinical hypothyroidism which were consistent with study SAHU MT et al in which the rates were 9.8%, 10.3% and low birth rate was consistent with the study of Leung et al which were 9%.

In cases of overt hypothyroidism complication rates for PE, IUGR Were 16.66% for each which were consistent with study by SAHU MT et al 20.7%, ,13.8% and PTD results were not consistent with SAHU MT et al which was 16.66% in our study and 4.7% in study by sahu et al.

Conclusion

Prevalence of thyroid disorders especially subclinical hypothyroidism (6.66%) and overt hypothyroidism (4%) was high. Significant adverse effects on maternal and fetal outcome were seen emphasizing the importance of routine antenatal thyroid screening.

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