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The analysis of pregnancy with hypothyroidism and fetomaternal outcome in M.G.M. medical college, Indore

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Abstract

Aim: The study was conducted in M.G.M. Medical College, Indore M.P to determine the effect of pregnancy with hypothyroidism on the fetomaternal outcome.

Materials & Methods: This was a hospital based retrospective study conducted in the department of obstetrics & gynecology, MGMMC, Indore, M.P, India, over a period of 1 year (Jan 2019 to Dec 2020).

Results: 682 out of 19073 (3.57%) Pregnant women were admitted in department of Obstetrics and gynecology with history of hypothyroidism. Maternal complication included abortion (2.05%),PIH (16.42%), pre-eclampsia (5.57%), abruption (2.64%), preterm labour (7.62%), PPH (4.98%). Neonatal complications observed were seen in (55.4%) pregnancy which included -preterm birth (14.36%), LBW (17.3%), IUGR (14.04%), NICU admission (7.03%).

Conclusion: Thyroid dysfunction in pregnancy, though has a low incidence, but is associated with adverse maternal and fetal implications.

Keywords: Hypothyroidism, Hyperthyroidism, Fetomaternal outcome.

Introduction

Thyroid dysfunction in pregnancy is the commonest disorder encountered among the antenatal women. Because of the very non-specific symptoms and the physiological hypermetabolic state of normal pregnancy, thyroid dysfunction in pregnancy may be overlooked and undiagnosed. Thyroid is a very important part of the normal functioning of the body and thyroid dysfunction, if present in pregnancy, has myriad adverse impacts on both the mother and her fetus. Autoimmune thyroid disease has very high risk of resulting in irreversible neurological deficit in the newborn and Grave's Disease is known to cause recurrent pregnancy loss as well as fetal thyroid dysfunction ^[1].

Aims & Objectives of the Study

This study was conducted to evaluate the effect of thyroid dysfunction in pregnancy and its consequent fetomaternal outcome. Our special objective was to estimate the prevalence of thyroid dysfunction in pregnancy and to evaluate the obstetric and perinatal outcomes in such pregnancies which will give us an idea about the healthcare burden of thyroid disorders in pregnancy in India.

Materials & Methods

This study was conducted in the department of Obstetrics & Gynaecology in, M.G.M. Medical College, Indore. M.P., India over a period of 1 year (January 2019 to December 2019). This was a hospital based retrospective study.

Inclusion Criteria

- a) Known history of thyroid dysfunction.
- b) Women who are taking medications for thyroid diseases.

Out of 19073 patients admitted in Obstetrics and gynecology department 682 patients with Hypothyroidism patients were taken for study. Maternal outcome variables studied were mainly- pre-eclampsia, abruptio placentae, preterm labour and delivery, abortions, PPH. Fetal outcome variables studied were- preterm birth, low birth weight (LBW), IUGR, IUFD, NICU admission and neonatal death.

Results & Observation

In this study we enrolled 682 antenatal women. Our observation was that out of 682 Antenatal case with hypothyroidism, maximum number of cases of is of Age 25-29 is 223(32.7%), More than 30yrs is 215(31.5%), 20-24yrs was 181(26.54%) and least was of less than 19 yr i.e 63(9.23%).

Table 1: Age Distribution

S. No	Age	No. of patients	Percentage
1	<19yrs	63	9.23%
2	20-24yrs	181	26.54%
3	25-29yrs	223	32.7%
4	>30yrs	215	31.53%

Table 2: Parity wise Distribution

S. No	Parity	No. of patients	Percentage
1	G1	264	38.7%
2	G2	218	31.96%
3	G3	143	20.96%
4	G4	57	8.35%

Table 3: Maternal complication

S. No.	Complication	No. of patients	Percentage
1	None	414	60.7%
2	Abortion	14	2.05%
3	Abruption	18	2.64%
4	PIH	112	16.42%
5.	Pre-eclampsia	38	5.57%
6.	Preterm labour	52	7.62%
7.	PPH	34	4.98%

Table 4: Neonatal Complication

S. No.	Complication	No. of patients	Percentage
1	None	304	44.57%
2	Preterm birth	98	14.36%
3	LBW	118	17.3%
4	IUGR	96	14.07%
5.	IUD	18	2.64%
6.	NICU Admission	48	7.03%

Adverse maternal outcomes were observed in 268 patients (39.3 %) and there were no complications in the rest 414 patients. The most common complications encountered were – abortion (2.05%), PIH (16.42%), pre-eclampsia (5.57 %), abruption placenta (2.64%), preterm labour (7.62%) and PPH (4.98%).

Among the neonatal outcomes, 44.57 % had none, 55.43 % had adverse fetal outcomes - preterm births (14.36%), LBW (17.3 %), IUGR (14.07%), NICU admission (2.8%).

Discussion

This Retrospective analysis was done on Patient with hypothyroidism in M.G.M. Medical College Indore, MP, India. We had recruited women irrespective of their gestational age. The prevalence of thyroid disorder in pregnancy was observed to be 6% which was not consistent with that reported by Sahu M *et al* [1] at 12.7 %. In a study by Leung *et al* [5] the incidence of complications were as follows- pre-eclampsia (15%), Preterm labour (9%) Low Birth Weight (9%) in cases of subclinical hypothyroidism, which is higher than those found in our study [4].

Sahu MT *et al* [1], reported PE (9.8%), Preterm Delivery

(10.3%), IUGR (2.4%), Still birth (2.5%) in subclinical hypothyroidism. Maternal complications seen were abortions (23), abruption placenta (2), Pre Eclampsia (25), Pre Term Labour (14), PPH (6), Puerperal sepsis (2). Sahu M *et al* [1] reported PE (20.7%), PTD (4.7%), IUGR (13.8%), Still birth (2.9 %) in cases of overt hypothyroidism.

Leung *et al* (5), reported PE (22%), LBW (22 %), Still birth (4%) in overt hypothyroidism. Abolovich *et al* [2] reported abruption (19%), LBW (6%), Still birth (3%) in overt hypothyroidism. In our study, the incidence of subclinical hyperthyroidism was 0.5 % out of which maternal complications encountered consisted of - abortion (4), preeclampsia (14), preterm birth (1), PPH (1), puerperal sepsis (1). The incidence of overt hyperthyroidism was 1.0 % in which the maternal complication encountered were abortion (1), PE (14), abruption (4), Preterm Birth (1), PPH (1), puerperal sepsis (1). Robert Negro *et al* [6], reported hyperthyroidism in low risk group with complications e.g. Gestational hypertension (16.7%), pre eclampsia (0%), preterm births (16.7%), abortion (14.3%), still birth (0%). Tuija Mannisto *et al* [3], reported subclinical hyperthyroidism was associated with complications eg. preeclampsia (4.7%), low birth weight (2.3%) etc. Miller *et al* [7] reported preeclampsia (3.5%), abruption (1.0%), preterm births (13.2%) in subclinical hyperthyroidism. Kriplani A *et al* [8] reported no perinatal deaths and preeclampsia (22%), preterm births (25%) in their study on hypothyroidism in pregnancy. The incidence of complications varied in different studies, but all these studies reinforced the fact that pregnancy with thyroid dysfunctions had adverse maternal and perinatal implications.

There are many limitations in our study, the greatest being the sample size of only 682 patients. Study on a much larger sample would enable us to understand the exact picture and magnitude of the problem [9]. Also, in our study, we did not screen the patients for TPO or thyroid antibodies, which would give a much clearer and better understanding of the same.

Conclusion

In our study we did retrospective analysis of ANC patient admitted in our hospital with hypothyroidism. Since we observed high incidence of fetomaternal adverse outcomes and complications in those pregnancies which are complicated with thyroid dysfunction, therefore, it is recommended that it should be made mandatory to do thyroid function screening in antenatal women universally as a routine procedure and suggest a decreased threshold for screening & detection of thyroid dysfunction among Indian pregnant women attending routine antenatal clinic. Increased awareness of associated maternal and fetal complications which may result from thyroid dysfunction if remained uncorrected during pregnancy can ensure a healthy mother giving birth to a healthy baby in every single pregnancy.

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