

Evaluation of Thyroid Disorders as a Risk Factor for Antepartum StillbirthDr. Lata Rajoria¹, Dr. Bhomraj Kumawat², Dr. Nupur Hooja*³, Dr. Rajani Nawal⁴, Dr. Brijesh Dadhich⁵, Dr. Smriti Bhargava⁶¹Sr. Professor, HOD, Department of Obstetrics and Gynaecology, S.M.S. Medical College, Jaipur, Rajasthan, India²Postgraduate Resident, Department of Obstetrics and Gynaecology, S.M.S. Medical College, Jaipur, Rajasthan, India³Sr. Professor, Department of Obstetrics and Gynaecology, S.M.S. Medical College, Jaipur, Rajasthan, India⁴Assistant Professor, Department of Obstetrics and Gynaecology, S.M.S. Medical College, Jaipur, Rajasthan, India⁵Junior Specialist, Department of Obstetrics and Gynaecology, S.M.S. Medical College, Jaipur, Rajasthan, India⁶Assistant Professor, Department of Obstetrics and Gynaecology, S.M.S. Medical College, Jaipur, Rajasthan, India**Original Research Article*****Corresponding author**

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Abstract: Antepartum stillbirth is a leading cause of perinatal mortality, of which medical disorders are an important cause. The objective of the study was to evaluate thyroid disorders as risk factor for antepartum stillbirth. The study was done over a period of 3 months in a medical college hospital, which is also a referral centre. Women admitted with singleton pregnancy more than 28 weeks were selected. Intrapartum stillbirth and pregnancies with either hypertensive disease of pregnancy or diabetes were excluded. Data collected was analyzed. The antepartum stillbirth ratio was 8.65%. Hypothyroid women were at higher risk of antepartum stillbirth compared to euthyroid women (odds ratio=5.62). Most of these women who had been diagnosed in the antenatal clinic had discontinued the medication or were not taking it regularly. Hence, women with thyroid disorders are at increased risk of stillbirth. Hence, they should be screened and undergo increased antenatal surveillance.

Keywords: Antepartum Stillbirth, Hypothyroidism, Euthyroid.

INTRODUCTION

Stillbirth is an important indicator of the health status of a population. For international comparison, World Health Organization defines stillbirth as a baby born with no signs of life at or after 28 weeks gestation or if weight is more than 1000 g if period of gestation is not available [1]. (ICD 10 code P95). Globally 2.65 million stillbirths occur every year [1]. The stillbirth rate for the developing world ranges from 20 to 32 per 1000 births [2]. In India; it is 4 per 1000 birth and 6 per 1000 birth in Rajasthan in 2015[3].

Many risk factors have been described for stillbirth. They are socioeconomic, cultural or biological [4]. Stillbirth may be antepartum or intrapartum. 50% stillbirths are antepartum. The risk factors for both are different and may be multifactorial, multiple interrelated [2].

OBJECTIVE

The objective of the study was to evaluate thyroid disorders as risk factor for antepartum stillbirth.

METHODS

This was a prospective study done over a period of three months from July 2017 to October 2017 in the Department of Obstetrics & Gynecology, SMS Medical College, and Jaipur. Women with singleton

pregnancy more than 28 weeks were selected. Intrapartum stillbirth and pregnancies with hypertensive disease of pregnancy, diabetes, anemia or any other medical diseases were excluded. Informed consent was taken of all women selected in the study. Data collected was analyzed.

RESULTS AND DISCUSSION

Total deliveries analyzed over 3 months were 1375, stillbirth ratio was 8.65 %. Among women with antepartum stillbirth, hypothyroidism was found in 32.5%, hyperthyroidism in 2.5% .65% of these were thyroid. The difference in the prevalence of euthyroid disorder in women with still birth and those with live birth was found to be statistically significant (p=0.003) Table 1.

Table-1: Thyroid Disorders as a Variable of Risk of Antepartum Stillbirth

Thyroid disorder	Total		Antepartum Stillbirth (N=40)		Live Birth (N=80)		Odds ratio
	No.	%	No.	%	No.	%	
Hypothyroid	21	17.5	13	32.5	8	10	5.62 (2.11-15.03)
Hyperthyroid	1	0.8	1	2.5	0	0	-
Euthyroid	98	81.7	26	65	72	90	1

Chi-square = 11.755 with 2 degrees of freedom; P = 0.003 (Significant)

The thyroid stimulating hormone (TSH) levels of women with stillbirth were higher than those of hypothyroid women who had live birth. The mean TSH

levels of hypothyroid women having antepartum stillbirth was 6.5 mIU/l as compared to 4.6 mIU/l of hypothyroid women with live birth Table 2.

Table-2: TSH Levels of Hypothyroid Women

TSH mIU/l	Antepartum stillbirth		Livebirth	
< 2.5/3.5(II/III Trimester)	27 Euthyroid		76 Euthyroid	
>3.5-8	11	Mean TSH – 6.5	4	Mean TSH-4.6
>8	2		-	

Thyroid hormone is essential for fetal development. Hypothyroid women are at higher risk of having fetus with intrauterine growth restriction. It may also lead to abruption placentae. All these further enhance the risk of intrapartum stillbirth [5]. Similar finding also found in C. Fretts R. [6] study, Odds Ratio 2.2-3.0, which was a significant risk factor for stillbirth. Besides having a stillbirth, deficiency affects the growth and development of the neonate as well.

Hypothyroid women were at higher risk of antepartum stillbirth compared to euthyroid women (odds ratio=5.62). Analysis showed that there were many barriers, personal, social and societal. Many of these hypothyroid women who had stillbirths had either never attended the antenatal clinic or had not attended it regularly. Few of them did not get regular testing for the thyroid disorder as advised nor had stopped taking the medication advised. Table 3

Table-3: Barriers to Non Compliance of Management of Hypothyroidism

Barriers	No. Of Hypothyroid Women : 21
1.PERSONAL	
Religious beliefs	3
Not attended/irregular antenatal visits- Lack of awareness/lack of time	5
Fear of blood tests/pricks	2
Apprehension regarding effect on foetus of medication	10
2.INTERPERSONAL	
Partner /In laws objection to antenatal care/visits/medication	3
3.SOCIETAL/LOGISTIC	
Accessibility	2

As our analysis showed, the role of regular follow-up and taking the medication needs to be emphasized at every antenatal visit to these women. If women do not attend regular antenatal clinics, these medical conditions are not recognized in the early stage and lead to fatal outcome, one of which may stillbirth[7] so besides just a medical factor, it has social issues too, of the irregularity of visits, noncompliance of getting the tests and/or the medication intake.

To move towards decreasing stillbirth rate, antepartum care plays an important role, as complications during the antepartum period are associated with the poor outcome of the pregnancy [8]. Recently Government of India Ministry of Health and Family Welfare has formulated new guidelines for management of diabetes, hypothyroidism, calcium &

iron supplementation and deworming during pregnancy under the Janani Suraksha Yojna (Maternity Security Program). A once-a-month fixed-day antenatal check-up campaign has also been launched (Pradhan Mantri Surakshit Matritva Abhiyan – Prime Minister Secure Motherhood Campaign)[9]. These initiatives can have an impact on hypothyroidism as a cause of stillbirth.

CONCLUSION

All women should be screened for thyroid disorders and undergo increased antenatal surveillance to prevent antepartum still birth. These visits would provide a screening opportunity. If the risk is timely detected, the clinicians have the opportunity to manage or treat the condition and to establish a future care plan for the neonate as well. Additionally, women would be

counseled about the thyroid disorders and their therapy, all of which will help to prevent antepartum stillbirth.

DECLARATIONS

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