Journal of Pharmaceutical Research International

33(38B): 295-299, 2021; Article no.JPRI.71115
ISSN: 2456-9119
(Past name: British Journal of Pharmaceutical Research, Past ISSN: 2231-2919, NLM ID: 101631759)

Management and Outcomes of Pregnancy with Gestational Hypertension and Hyperthyroidism: A Case Report

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i38B32126
Editor(s):
(1) Dr. Barkat Ali Khan, Gomal University, Pakistan.
Reviewers:
(1) Ramazan Erdoğan, Bitlis Eren University, Turkey.
(2) Ananya Tenali, RICH Institute of Child Health, India.
Complete Peer review History: https://www.sdiarticle4.com/review-history/71115

Case Report

Received 20 May 2021
Accepted 26 July 2021
Published 28 July 2021

ABSTRACT

Introduction: Hyperthyroidism associated increases in thyroid hormone concentrations have to be differentiated from physiological adjustments in thyroid hormone economic system that rise up all through being pregnant, especially in the first trimester. For one thousand births, one or two instances of gestational hyperthyroidism exist. It's critical to stumble on hyperthyroidism in a pregnant female due to the fact it is able to have harmful outcomes for each the mom and the infant.
Presenting Complaint and Investigations: Patient's chief complaints were vomiting, discomfort since 2 days. After physical examination and investigations, doctor diagnosed this as case of G2A1 with 35 weeks gestational age. This was a known case of gestational hypertension with hyperthyroidism. Investigations included Blood test, urine test, thyroid Profile, USG.
Obstetric History: Patient had bad obstetric history. 2.5 months spontaneous abortion was reported.
The Main Diagnoses, Therapeutic Interventions, and Outcomes: Gestational Hypertension with Known case of Hyperthyroidism. The patient had undergone various investigations like blood tests, USG, Physical examination. After physical examination and investigation doctor took a decision of

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emergency Lower segmental Caesarean section. Under spinal anaesthesia Lower segmental Caesarean section was done and outcome is good.
Nursing Perspectives: Administered fluid replacement i.e. DNS and RL, Fetal monitoring, monitored all vital signs and observed the outcomes of treatment.
Conclusion: Treatment and control of hypertension and hyperthyroidism in pregnancy at the right time increases the pregnancy's outcome.

Keywords: Graves' disease; thyrotoxicosis; hyperthyroidism.

1. INTRODUCTION

At some point of pregnancy, specially within the first trimester changes in thyroid hormone concentrations which can be typical of hyperthyroidism must be differentiated from physiological modifications within the thyroid hormone financial system. For every 1,000 births about one or two instances of gestational hyperthyroidism arise. Identification of hyperthyroidism in a pregnant lady is important as adverse outcomes can affect both the mother and the offspring. Graves' sickness, that is autoimmune in nature, is a common cause; but, hyperthyroidism in pregnancy can be caused by any form of hyperthyroidism, together with toxic multinodular goitre or a single, autonomously functioning nodule. Gestational transient thyrotoxicosis is generally documented in girls with hyperemesis gravidarum and precipitated by excessive circulating concentrations of human chorionic gonadotropin [1]. Careful assessment of maternal and foetal symptoms for the course of pregnancy is very essential in suspected hypertension case , and those with serious illness should be treated in-hospital [2]. The prevalence of hyperthyroidism has been investigated in lots of studies. In an epidemiological analysis conducted in Cochin, subclinical and overt hyperthyroidism was present in 1.6 and 1.3 per cent of subjects respectively in the institution pattern [3]. Subclinical and overt hyperthyroidism have been noted in 0.6 percent and 1.2 percent of women respectively located in a medical institution at Pondicherry [4]. More than a third of the network-detected hyperthyroid instances have high levels of anti-TPO antibodies, and about 39% of these sufferers have goitre.

2. PATIENT INFORMATION

Demographic Details: Patient was a 24 years female admitted in ANC ward. She was housewife and belonged to middle class family.

Patient specific information: She had bad obstetric history; reported history of spontaneous abortion in 2.5 months previously.

Past medical and surgical history, and relevant outcomes from interventions: Medical history: No any history of Diabetes, asthma. But now patient is having hypertension.

Surgical history: No any past surgical history.

Other histories:

Obstetric history: Gravida 2,Spontaneous abortion of 2.5 months done previously.

Menstrual history: LMP:- 2/06/2020, EDD:- 9/03/2021, PMC:- 3-4 days/ regular/clots absent 28-30 days, average flow. Bladder and bowel habit was normal.

Family history of patient:

Patients family is joint family. In family there are 4 members including herself, her mother in law, father in law and her husband. In family there is no history of illness like Diabetes, asthma, hypertension.

Habits: Patient had no habits like smoking, tobacco chewing etc.

Clinical Findings:

General examination:

State of health: Unhealthy,
State of consciousness: conscious,
Body built: Moderate
Hygiene: Good,
Per abdomen examination: Uterus 32-34 wks
Cephalic Presentation relaxed, FHS- 140/min

Vital parameter:

Blood pressure: 140/80 mm/hg., Temperature: 98.6^{o}F,Pulse: 82 beats/min.

Respiration: 20 breath/ min.

Breast: Enlarged and bluish vein visible, Nipple: large and erected.

Tenderness: Absent

Abdomen:

Shape: Cylindrical, Abdominal girth: 94 cm, Fundal height: 22 cm

Inspection: Steria gravidarum, linea nigra was present.

Palpation:

Fundal: hard rounded structure felt, presentation is breech

Lateral: Right anterior curved is spine, left lateral globular mass hallow is extremities, lie was longitudinal, Pawlick: small smooth masses feel, Pelvic: small smooth masses feel.

Auscultation: fetal heart sound was 160 beat/min.

Vaginal examination

Vulval inspection: discharge not seen, no any uterine prolapsed

Timeline:

Previously patient had taken treatment at a private Hospital in Wardha. Then she came to AVBRH, Sawangi (M), Wardha.

Diagnostic Assessments: USG report shows that client having single tone pregnancy. Single intrauterine live fetus of average GA of 34 weeks 3 days and corresponding to weight of 2490 gms.

Physical examination:-

P/A:- Uterus 32-34 wks, Cephalic Presentation, relaxed, FHS- 140/min. No oedema, swelling.

Laboratory investigations:-

Blood:-Hb- 11mg%, Thyroid Profile:- Triiodothyronine Total:- 145.15 ng/dl, Thyroxine Total (TT4):- 8.92, Thyroid stimulating hormone (TSH):- 2.41 u/u/ml, Alpha Fetoprotein (AFP) :- 36.40 ng/ml, USG.

Diagnostic challenges: No challenges reported during diagnostic evaluation.

Diagnostic reasoning: Patient's USG done.

Prognostic characteristics:

After investigation and USG, patient's prognosis is good.

Therapeutic Interventions

Pre-intervention considerations: Hypertension.

Medical management: Given on admission:-Inj. Emset I.V. stat ,Inj. Pan 40 mg in drip over 2 hours, Tab. Labet 100 mg od, Tab. Thyrox 12.5 mg. Od.

Surgical treatment:- Patient's lower segmental cesarean section done on date 19/02/2021 living female child birth weight 2 kg.

Interventions:

Patient's Lower segment cesarean section is done. After that Inj. Oxytocin 2 unit is given IV. For controlling bleeding. IV fluid 5% Dextrose 500 ml. Started to prevent dehydration. Inj. Xylocaine test done before cesarean section.

To prevent infection antibiotics given Inj. Cefotaxim 1gm IV.Bd, Inj. Metro 400 gm IV. TDS. Inj. Voveron is given as analgesics. IV fluid 5% Dextrose 500 ml.

No any changes done in therapeutic intervention.

Nursing Perspectives:

As per criteria the nursing care was given to maintain the personal hygiene to prevent further complications. Perineal wash was given to the patient. Patient's vital signs checked. Observed patient for PPH, shock etc. The outcomes of treatment, Baby chart was maintained.

Follow-up and Outcomes:

On weekly and biweekly follow-up, patient was alright.

Outcomes: Outcome of patient is good. Patient's Caesarean section was done. Live female child borne with birth weight of 2 kg.

No any complications were seen in patient. Patient's condition is good.

3. DISCUSSION

In this case, patient's condition is good. No any complications reported during labour process.

Baby's condition is good. A careful check of thyroid disorder and hypertension helped to prevent from any dangerous effects on the mother and fetus. Consistent with correlation between PTU and foetal teratogenicity, at some stage in the primary trimester of pregnancy, propylthiouracil (PTU) is usually recommended as the drug of choice, but it need to be replaced with methimazole (MMI). All antithyroid tablets may be administered to nursing moms, but MMI should be the desired drug due to the chance of possible hepatotoxicity of PTU in either mother or infant for the duration of the postpartum period [5].

According to study done by Fereidoun Azizi et. al., antithyroid capsules are the principle remedy for maternal hyperthyroidism. PTU is preferred in the first trimester and ought to be replaced by MMI after this trimester. Choanal and esophageal atresia of fetus in MMI-treated and maternal hepatotoxicity in PTU treated pregnancies are reported. MMI is the mainstay of the treatment of post-partum hyperthyroidism, especially in the course of lactation. Studies on indicators and diagnostic aspects of pre-eclampsia and eclampsia were reported by Yadav et al. [6], Ambad et al. [7] and Khandelwal et al. [8]. Dhingra et al. reported a study of management of pregnancy induced hypertension by magnesium sulfate and a calcium channel blocker [9]. Sharma et al. assessed impact of diabetic ketoacidosis in pregnancy [10]. Chadha et al. assessed the correlation between spot urinary protein/creatinine ratio and serum uric acid and its association with feto-maternal outcome in hypertensive pregnancy [11]. Related studies on complicated pregnancies were reviewed [12-15]. Studies on availability of obstetric and gynecological services [16-17] were reported [18-21].

4. CONCLUSION

Well timed treatment and management of hypertension & hyperthyroidism during pregnancy improves the outcomes of pregnancy and maternal complications are prevented to a considerable degree.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline patients consent and ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle4.com/review-history/71115